



MEDA Maroc's 100 Hours to Success

Impact Evaluation Concept Note
Taqeem Fund for Evaluation in Youth Employment
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SUMMARY

In the aftermath of the Arab Spring, the issue of youth employment has catapulted to a top policy issue of all Arab Governments. Despite this, little evidence exists on what works, the Global Youth Employment Inventory suggests only 15% youth employment programs from developing countries provide evidence of net impact.

The proposed study looks at the “100 Hours to Success” training initiative implemented by one of Morocco’s most prominent NGOs, MEDA Maroc which trains 30,000 young people/year. The study will attempt to understand if a comprehensive (training +) approach of teaching young people how to save and invest their money combined with training on soft skills and demand driven competencies and finally by assistance with job search will provide jobs and increased incomes for youth.

The study proposes the first randomized control trial of a youth employment project in Morocco and will compare a control group of 800 youth and a treatment group of 800 youth. Evidence will be provided on many understudied questions: How are young people saving and investing their money? What is the relation between employment/incomes and social unrest? Can the school to work transition be quicker with short post-secondary training?

The study comes at a time when Morocco is initiating dialogue on a new National Employment Strategy and when many donors are investing in the area, including a \$100 million World Bank loan on skills and employability. The MEDA program and its partnership with Youth Employment Network, an interagency program of the ILO, World Bank and UN, is uniquely placed to contribute and improve the policy debate.

1. Introduction

Since 2008, MEDA has partnered with the MasterCard Foundation to develop a scalable and replicable model to reach youth with both financial and non-financial services. The goals of the YouthInvest project are:

- To support education and training opportunities for youth to ensure improved long-term prospects and to contribute to a higher quality workforce;
- To support financial service providers – including MFIs and banks – to develop financial products to increase access to FS for youth in the countries of implementation; and,
- To support youth in the critical school-to-work transition, with a greater awareness of strengths they can build on and tools to address their weaknesses, including stronger business skills, improved decision making ability and increased assets.

As part of its YouthInvest project, MEDA Maroc maintains two particular youth-assistance streams. The stream covered by this proposed impact evaluation focuses on providing basic skills training, job search support and internship opportunities to men and women between the ages of 18 and 25. Within this stream, MEDA Maroc seeks to provide applicants with savings accounts that allow them to begin saving money and access to a skills and entrepreneurship training course (see detail below). Participants also have the chance to participate in internships or are provided with information on potential job openings as part of the program. A second stream focuses on providing new and existing youth loan clients of partnering microfinance institutions (MFIs) with training in basic business skills designed to better enable them to manage their finances and debt.

Over the past two years, MEDA Maroc has provided opportunities to 13,000 youth a year through 45 training centers based in 25 urban and rural districts across the country. In larger cities like Oujda, Ouarzazate and Errachidia, MEDA Maroc maintains 7-8 training centers, while smaller villages have one center. In each of these areas, MEDA Maroc works with schools, universities, vocational training centers and youth service organizations to identify youth in need of the services it provides and to market its services. MEDA Maroc also partners with microfinance institutions to identify youth borrowers for its MFI program, and with local banks and the postal service to provide savings accounts for all participants.

Working in conjunction with the Taqueem Initiative, MEDA Maroc has committed to undertaking an impact evaluation of its YouthInvest project in order to improve its own understanding of the effectiveness of the program as it is being implemented. Moreover, MEDA Maroc hopes that the impact evaluation study will allow the wider development community to draw on lessons learned from the evaluation for possible replication and up-scaling of programs aimed at improving outcomes for youth in the country and the wider Arab region. This concept note outlines the methodology and main features of the proposed impact evaluation.

2. Policy implications

2.1. The youth employment challenge

The situation for young people currently entering the labour market is nothing short of a crisis. Globally, youth unemployment rate rose from 11.8 to 12.7% between 2008 and 2009, marking the largest annual increase over 20 years. While it is normal for youth unemployment rates to be twice the rate for adults, current rates of three and four times those of adults suggest something else going on, perhaps a result of volatile financial markets.

Governments have been slow to respond and propose solutions to this crisis. One cause of this lack of action has been attention to impact. According to the 2007 report of the [Youth Employment Inventory](#), of a pool of nearly 300 programs, only 15 provide evidence of net impact. This evaluation gap leads to significant voids in the design of (public and private) programs aiming to support the transition of youth into employment.

In Morocco, as youth transition out of school, they faced tremendous challenges in securing gainful employment. The transition to work for youth is marked by high rates of unemployment, as well as low rates of labour force participation that may reflect even higher rates of joblessness in the context of discouraged job seekers. The current rate of unemployment among Moroccan youth (ages 15-24) is over 17%. Rates are higher in urban environments, where youth unemployment is estimated at 33.4%.

The economic situation of youth must be understood in the context of Morocco's demographics, wherein a large "youth bulge" has emerged over the past few decades. Currently, those between the ages of 15 and 24 make up 19% of the population and those between the ages of 15 and 29 make up nearly 29%. This means that large shares of the population are concurrently competing to secure quality educations, find jobs and secure other important milestones in the transition to adulthood, putting tremendous pressures on the country's educational and employment markets.

In Morocco, evaluations specific to measuring youth employment related impacts have never been carried out – a significant gap in the empirical literature with respect to the conditions under which programs like MEDA Maroc may jointly achieve economic and employment goals. A focused study, narrowing in on a highly vulnerable but high potential youth demographic would be beneficial.

The study comes at a time when Moroccan authorities are placing increasing importance on youth employment. Morocco's deviation on the Arab Spring, the self-described "Democratic Spring", brought with it a new constitution that included articles on increasing youth participation in government and civil society. Vocational and skills training, re-training and labour market intermediation programs are being scaled up, most notably the "National Initiative for Human Development" (INDH) and the "National Agency for Promotion of Employment and Skills" (ANAPEC). The World Bank will loan Morocco \$100

million, mostly in support on these two programs, while the International Labour Organisation has started a \$9 million, four-year program targeting unemployment among youth and women.

The study would also attempt to provide input to the ongoing negotiations of the Moroccan Ministry of Labour as they attempt to enact an integrated National Employment Policy in 2012. Evidence stemming from MEDA Morocco's impact evaluation would feed into the outcomes of these larger scale programs and hopefully provide for better results. Lastly, this evaluation will attempt to validate the youth employment approach of a project that has shown impressive anecdotal evidence of impact over the past years. MEDA Morocco's comprehensive youth employment approach combines teaching young people how to smartly save and invest their money with training on soft skills and demand-driven competencies and finally with assistance with job search. Initial evidence suggests that the program has increased youth's savings by 77% and employment by 12%. A randomized control trial of this approach is a logical next step to assessing the program's true impact.

2.2. Low cost, high impact evaluations

This evaluation will attempt to provide evidence that rigorous studies do not have to be multi-year, multi-million dollar investments. Narrowing the focus to concentrate on a specific set of outcomes, while working in a "project" setting with targeted interventions and well-defined beneficiaries, can produce a smart set of results quickly and at lower cost. While the study team recognizes that you often "get what you pay for" in terms of data collection quality, it is believed that technology can play a significant role in offsetting the costs of face-to-face and household interviews. While some of these technological methods are risky and oft untested, back up strategies for face-to-face interviews will be included as a mitigation strategy.

Also important to mention is the "community" approach that this study is taking. MEDA Maroc is part of a Youth Employment Network initiative called the "Taqeem Community of Practice," a group of competitively selected youth serving organizations in nine countries in the Middle East and North Africa. This group of practitioners is supported by a team of impact evaluation and M&E specialists. Through this community, learnings from the MEDA impact evaluation study, not only in terms of evidence but also in terms of capacity building for impact evaluation, will be shared throughout the region. The study team can also rely on high levels of technical expertise from the Taqeeem technical support team, including representatives of Silatech, the World Bank and the International Labour Organisation as well as independent scholars, who will provide specific advice to ensure that the study is a success. The partners proposing this study view impact evaluation as a means of creating shared learning among stakeholders, not only as a way to generate data or prove success.

3. MEDA Maroc's YouthInvest project

MEDA Maroc feels that future economic success for youth depends on establishing a solid foundation by enabling youth to better understand the need for and benefit of savings. As such, MEDA Maroc's YouthInvest intervention begins with having youth establish savings accounts in local banks or post offices. MEDA Maroc has worked with these institutions to facilitate the ability of participants to open such accounts. To open these accounts, banks require an initial deposit of 100 Moroccan dirhams (\$12) and postal offices require a deposit of 20 dirhams (\$2.40). In general, participants must apply for a savings account and present a copy of their savings account documentation to MEDA Maroc before participating in other activities within YouthInvest. A small number of participants (between 10 and 20%) are not able to open savings accounts because they do not have guardians who can co-sign for them (due to death of parent or other reasons). In these cases, the savings requirement for participation can be waived.

Once participants have registered and submitted evidence that they have established savings accounts, they are able to enroll in training. Participants enroll in at least one of four training programs. While the content of the trainings differ, each has the same objective to help fill the gap that has emerged between the skills gained by youth while in school and the needs of the labour market. The programs are detailed below:

100H to Success: This course provides youth with 100 hours of training in life skills, entrepreneurship and financial education. After acceptance to the program, youth are placed in 100H to Success classes that run from 1 month to 3 months (depending on a student's availability for training). Most classes run for 3 months. As MEDA Maroc's key program, 100H to Success provides training to more than 6000 trainees a year across the country.

Click for Success: This is a 48-hour training program on the basics of computer use, including how to use the computer, how to use various Microsoft applications (Excel, Word and Powerpoint), and internet training. Click for Success courses generally run for two months. About 3000 trainees participate in Click for Success every year.

My Rights and My Responsibilities: This is a 15-hour training program designed to enhance participants' sense of citizenship and to encourage their active participation in the social, political and economic life. In the last year, MEDA Maroc has provided this program to 500 trainees.

How to Find a Job: New this year, How to Find a Job provides participants with 20 hours of training in the skills needed to organize their job search efforts and to prepare for job interviews.

Our study will concentrate on MEDA's largest training program, 100H to Success, which has consistently drawn about 60% of applicants to the program. MEDA Maroc feels that the 100H to Success program has provided its most successful approach, and is one that the organization seeks to scale up and

replicate in other countries within the region. As such, the study's sample will be pulled from participants of this training program only.

Upon completing the 100H to Success training program, a small group of participants (5-10% depending on available opportunities) are provided with month-long internship opportunities in the local community. These opportunities are sought by local trainers through discussions with local private sector firms. The trainer is responsible for matching opportunities with participants who fit the characteristics sought by local firms. Interns are provided with a 500 dirham (\$70) stipend by MEDA Maroc over the course of their internship. MEDA Maroc is trying to expand the availability of internship opportunities; however, there is some resistance by local firms to take on interns due to government regulations requiring them to pay \$40 into the social insurance scheme for each intern.

For those youth who do not secure internships through the program, MEDA Maroc tries to provide additional support to them as they begin their job search. These services include the provision of a regularly updated list of job opportunities through their website. MEDA Maroc also sends participants regular SMS updates regarding government hiring, private sector opportunities and other relevant news.

The program is open to all youth interested in participating in the program, as long as they meet the following basic requirements: applicants must be between 15 and 25 years of age; they must submit a registration form, a recent photo and a copy of their ID or birth certificate; and, they must apply for a savings account in a local bank or through the postal service, and present a copy of their savings account documentation with their registration form (as noted above).

By providing a package of services including a savings component, training designed to improve job-applicable skills and entrepreneurial skills, and on-the-job experience, MEDA Maroc feels that it fills an important gap in the transition from school to work for Moroccan youth and provides participants with a foundation that better enables them to secure gainful employment in a challenging environment. The experience for participants also fosters a greater sense of confidence in their own abilities and enhances their sense of empowerment both within their families and the community at large.

4. Evaluating the YouthInvest project

4.1. Objectives of the proposed evaluation

Despite Morocco's increased investment in youth employment, there is little evidence put forward about what types of interventions work best for the challenges at hand. Given the youth employment crisis, it is vital that we begin to collect evidence of the services that youth most need, the types of interventions that best bridge the gaps in the transition from school to work, and how these interventions best serve their intended beneficiaries.

The proposed impact evaluation of MEDA Maroc's YouthInvest Program will contribute to this body of evidence by providing quantitative evidence on the value of short-term, focused skills training programs, internship experience and job matching services as a means of bridging the existent gap between youth seeking economic opportunities and current labour market demand.

The evaluation will also provide MEDA Maroc with a rigorous evaluation of its own outcomes, demonstrating the effectiveness of its intervention or demonstrating areas of weakness, thereby providing important data for assessing how the program can be improved before MEDA Maroc invests in expanding the reach of the program or replicating it in other countries in the region.¹

Specific objectives for the proposed evaluation include:

- 1) Measuring the effect of the project on labour market outcomes for participants, including probability of employment, either in an existing company or self-employment, duration of job search, and earnings among other factors.
- 2) Assessing the effect of the project (especially the life skills and the financial aspect of the program) on participants' self-efficacy as members of the household and the community.
- 3) Extracting programmatic lessons for a wider network of organizations seeking to promote skills development in the MENA region and elsewhere.

4.2. Evaluation hypotheses

The main hypotheses put forward for the project evaluation are related to the average impact on program participants and impact heterogeneity. Average impact hypotheses refer to the effect of the program on labour market outcomes of beneficiaries. Impact heterogeneity hypotheses take into account the variation in impact that results from differences in context, initial characteristics or implementation of the intervention. These two types of hypotheses will provide information that could

¹ MEDA is actively engaged in promoting employment opportunities for youth in Egypt. The experience in Morocco will greatly inform program designers and implementers what works best, and why, to improve the labour market outcomes of young people.

help MEDA Maroc replicate in other communities if findings are positive and to improve the design features of the YouthInvest program. These features could include targeting where MEDA has questions related to whether it is meeting its objectives to target the most disadvantaged youth: Does its eligibility criteria of youth between 18 and 25 need to be expanded? Does the program effectively reach enough young women, given that women's participation in the labour force is limited and women's unemployment rates are higher than those of their male counterparts? MEDA also seeks insight regarding issues around implementation, including the extent to which its staff and implementing partners are competent in reaching goals, why some trainers are successful and others not, and how MEDA can improve cooperation with the private sector and its established partners. The evaluation will provide necessary context to these questions and inform policy at the program and organizational level.

The average impact of participation hypothesis is as follows:

The project's combined approach – enabling youth to establish savings; providing training in soft skills, money and debt management skills, and basic business and entrepreneurial skills; internship provision; and, assistance in their job search (to the extent that participants partake in opportunities in each of these areas) – is expected to increase the likelihood of employment and the quality of employment.

As a result of participating in the project, youth will be more readily able to secure employment, including jobs that allow them to earn higher incomes and that provide better benefits or are more formal positions. Improved earnings through self-employment should enable youth to better supplement family income and improve the overall well-being of family members.

As noted above, the evaluation will concentrate on MEDA Maroc's largest training initiative, 100 Hours to Success, which provides training in life skills, entrepreneurship and financial education. The program consists of, on average, three months of engagement with participants. The fore-sought outcomes are expected to fully materialize only after participants have left the program and have engaged more fully in their personal efforts to secure employment, start their own business or enroll in further training or education. While we expect to see some short-term gains for most participants, any significant observable impact from the program is expected within the period of one year after completion of the training course.

As secondary average impact hypotheses, the evaluation expects to find that participants develop a greater sense of and confidence in their own abilities, while also gaining a greater sense of personal empowerment within their own families and within the community. These outcomes would be deemed positive outcomes from program participation, whether or not participants end up entering the labour market or securing employment therein.

Hypotheses related to impact heterogeneity at the individual level comprise:

- *Urban vs rural:* Participating youth from urban and rural locations will experience different outcomes from program participation, due to differences in labour market demand. The study will be concerned with demonstrating differential impacts on youth in differing geographic circumstances.
- *Initial human capital:* Factors such as the participants' level of education and participation in prior training courses will affect outcomes for participants. Prior work experience will also be a factor, although most youth who enroll in the classes do not have much prior work experience. This assumption will be controlled for in the survey instrument.
- *Gender heterogeneity:* As described above, female labour force participation rates in Morocco are significantly lower than those of young men. Understanding the impact of the program on young women is of special interest to MEDA. It is also significant for the region as a whole, where women face a number of barriers to enter the labour force. Gender impacts will be measured through the impact heterogeneity analysis, which will be supported by qualitative methods, including both one-on-one to focus group interviews.
- *Initial family income levels and social capital:* Socio-economic standing may affect an individual's employment prospects in several ways. First, those with better socio-economic standing will be more likely to have developed their own human capital. Second, those with higher economic standing are likely to have social and family networks that they can take advantage of to secure employment. At the same time, however, those from wealthier backgrounds are also more likely to maintain higher reservation wages and, as such, to be more selective in the job offerings that they accept. The team will work to control for differential income backgrounds, keeping in mind the difficulty of securing valid family income data from youth (possibly requiring the inclusion of a household consumption component within the questionnaire).
- *Initial ambition, ability and other intangible characteristics:* Personal characteristics that participants bring to the program – often times unobservable or difficult to quantify – will drive outcomes for youth. These include a participant's innate ambition, natural abilities or proclivities to business success, and issues such as risk aversion. While the RCT approach (see below) helps to ensure that such factors are not influenced by selection bias, outcomes for individual beneficiaries (and members of the control group) within the study will be effected by such factors. As such, our survey instrument will be designed to account for their influence. We are exploring the inclusion of an experimental game to measure risk aversion for a sample of surveyed youth.

5. Impact evaluation methodology

5.1. Evaluation design

A. Overview

Drawing from applicants for MEDA Maroc's 100H to Success program, the study will depend on randomized assignment of 800 youth applicants to a treatment group and approximately 800 youth to a control group. This experimental design allows us to make a net estimate of the program's impact by allowing for a clear counterfactual to the experience of our program participants. Demand for MEDA's 100H to Success program has always exceeded supply, usually by several times. This over-subscription allows us to fully randomize participant selection and thus accurately estimate the effect of the program. This impact can be assessed by comparing changes in outcomes for those in the treatment group with changes in outcomes for those in the control group.

B. Subject population

The evaluation will focus on Morocco's Oriental region and its main city Oujda. This region has been chosen because of the high demand for MEDA services amongst youth as well as the strong presence of MEDA and its partners there. The region has a population of two million people with a core urban population of one million. The youth unemployment rate in the region is analogous to the country-wide unemployment rate of 19.4% for youth between the ages of 15 and 24, with about 410,000 unemployed youth in the region. Recruitment for the program and the application process are administered by MEDA partner institutions: government-sponsored "Maisons de Jeunesse" (youth centres), vocational and professional training centers. MEDA works in 28 of these centres throughout the Oriental region.

To ensure enrollment heterogeneity amongst the youth population, MEDA will run information sessions on the 100H to Success training program in each of the centres in the region. Based on previous experience, we expect to reach approximately 10% of the region's unemployed youth (41,000) through these information sessions. Of the youth that are reached, we anticipate up to 5,000 of them applying for the 100H to Success training starting in September, based on application rates from past experience. This number ensures that we will have significant over-subscription for the program, allowing for a clean random sorting with equal sample sizes for the treatment and control groups.

Naturally, MEDA Maroc has concerns about any evaluation that seeks to exclude individuals as potential participants, especially since the organization generally has had the resources and capacity to provide training opportunities for most if not all youth who seek such training (although such training is often provided after a delay as classes fill up). To correct for this ethical dilemma, participants that are not selected for the September round of training will be placed on a waiting list, which would allow them to participate in future MEDA trainings. Nevertheless, once applicants are randomly sorted into participant (treatment) and non-participant (control) groups, those in the control group will be excluded from

participation in MEDA Maroc training programs for the duration of the period under study (i.e., until December 2013).

It is understood that this study excludes areas in which MEDA maintains a presence and in which MEDA seeks to scale up the program in the near future. Given that the sample is limited to a subset of MEDA would-be beneficiaries, concentrating on one specific region, any projections of the final analysis of program's impact onto youth in other regions will be subject to endogeneity concerns. However, it should be noted that basic youth characteristics in Oujda, including education levels and household incomes, are comparable to the country average. Therefore, the results of this evaluation, with caveats, could be applied to other areas.

5.2. Identification and contamination issues

As described above, program participation and sorting into treatment and control groups will be carried out through random selection. After MEDA promotes the program at local youth centres and vocational centres, they will begin accepting applications at these training centres. Additional applications will be taken at the MEDA office in Oujda. Once all applications are received, random sorting into treatment and control groups will take place.

There are potential risks that have to be taken into account with respect to potential contamination of both the treatment and the control groups. On one hand, since applications are drawn from various sources and offices, there is a possibility that logistical issues alone will lead to some minimal contamination. Moreover, there is a risk, albeit minimal, that instructors will allow individuals who have not followed the application/sign-up procedure into their classes. Perhaps more importantly, one must consider the potential for individuals from the treatment group, after selection, to opt out of enrollment. In the past, MEDA Maroc has seen about 10% of program participants' dropout of the program after enrollment. As such, our analysis will have to differentiate between compliers (those who are selected to participate and do, those who are selected as controls and remain as such) and non-compliers (those who are selected but do not participate, those from the control who find a way into the program). We will also have to control for partial compliers (those who enroll but do not complete the program).

To control for these potentials, we will maintain detailed administrative records (i.e., a black list with the name of youth part of the control group) and compare class participant lists carefully against treatment group lists and control group lists. With this data, we will create an instrumental variable based on actual program participation that corrects our findings for the intention to treat with a calculation of the probability of treatment assignment compliance. This will allow us to quantify the local average treatment effect, serving as an unbiased estimate of program impact on those within the original random sorting (whether treatment or control) who comply with their sorted status.

General attrition from the survey population is not foreseen to be a major problem. While there is a risk of survey participants from the treatment group dropping out of the program, participants who choose to leave the program will nonetheless remain in the study. Naturally, their departure from the program does make it more difficult to track them for follow-up surveys. Risks in this regard may be even higher for members of the non-participating control group, given that they lack the incentives of cooperating with the survey team during the follow-up stage. Mindful of these concerns, the survey will collect extensive contact information about survey participants (beneficiaries of the program and the members of the control group), as well as their family and friends (see below). Moreover, we will maintain regular contact with survey participants over time and will implement a tracing activity mid-way through the impact evaluation study (around May 2013).

In addition to the core challenges of contamination and attrition, we are mindful of potential spillover effects. Naturally, there is room for participants to share learning with siblings and peers in a way that has some effect on outcomes for these non-participants. At the same time, direct effects on participants, in regard to employment and income, might affect non-participating family members and peers, either positively or negatively. Our survey instrument will be designed to include measures that will attempt to capture such effects. We may also include a short survey of youth' families and peers to trace any evidence of such spillover effects.

Finally, by collecting baseline data on treatment and control outlets, and by stratifying according to income levels and other indicators such as proximity to training centers, previous job experience, etc., we will obtain a sufficient sample to enable us to identify heterogeneous treatment effects despite the survey being conducted in a relatively small geographic area.

5.3. Evaluation process

To begin the process of selecting viable survey participants for a baseline survey, MEDA Maroc teams will make site visits to all participating institutions included in the study. During these visits, MEDA Maroc will present the program to youth as they generally do within these settings and will accept applications from interested students. As part of the presentation to students, MEDA Maroc will (i) inform students that there are limited spaces available in the program and that, as such, there is a chance that eligible students would not be able to secure a position this year, encouraging them that, if this is the case, they should apply in the next year, and (ii) indicate that applicants may be contacted by an external survey firm as part of a rigorous study designed to help MEDA improve its services to youth.

Once applications have been secured from applicants in each institution, applications will be provided a unique identification number (to control for similar names and to allow for confidentiality at various steps of the process). Applicant names, contact information and identification codes will be provided to the evaluation team, which will randomly sort them into the treatment and control groups.

The survey contractor will be deployed to contact individuals under study and arrange for each member of the treatment and control groups to complete a survey. At baseline, applicants will not know whether they have been accepted into the program. Also, individual surveyors will not be made aware as to whether the youth to be interviewed have been accepted into the program or not so as bias responses.

Once the population under study has been surveyed, MEDA Maroc will contact applicants to tell them whether or not they have been accepted into the program. Program managers will be informed of those who are selected into each group so that they can begin to make arrangements for launching the training program. Subsequently, the training program courses will commence as per usual operation at MEDA Maroc. Training for all 800 participants under the study will take place over the course of three months following participant selection. Those excluded from program participation as part of the control group will not be enrolled in the YouthInvest program until after the conclusion of the follow-up survey. The follow-up survey with all participants and non-participants will take place 12 months after completion of training.

5.4. Power calculations

With any evaluation, it is important in the design phase to attempt to avoid being “underpowered”; i.e., having too few observations in the final data to detect an effect of the program. With this in mind, we have run power calculations to determine the minimum sample required to ensure that the proposed evaluation includes a sample large enough to assess the impact of the 100H to Success program.

With this in mind, we begin with a presentation of the basic hypotheses based on the core outcome of interest:

H0: Participation in MEDA Maroc’s training program does not enable employment for participants more than not having participated in these programs.

H1: Participation in MEDA Maroc’s training programs improves employment outcomes for participants more than not having participated in these programs.

To ensure that we are able to reject the null hypothesis confidently for program impact as a whole, we ran a power calculation based on the following assumptions:

- Conventionally, a test with a power greater than 0.80 (or $\beta \leq 0.20$) is considered statistically powerful (Mazen, Hemmasi, Lewis 1985). Therefore, we assume a power of 0.80.
- We assume a significance level of 0.05 (95% confidence level).

Drawing from past estimates of program performance, we expect that 25% of program participants will secure employment compared with 15% of those assessed at the beginning of the program.² Based on the proportional outcomes of this dichotomous variable for the two groups, we calculated that it would require only 249 individuals from each of the treatment and control groups (total of 498) to observe a significant difference (using a two-sided test). However, this is a fairly large gap in outcomes: if we assume that 25% of program participants are employed and 20% of non-participants are employed, countering the null hypothesis becomes more difficult, requiring 1099 participants and 1099 non-participants to be included in the sample. Overall, the projected maximum sample size, including all 800 participants and an equal control group, would allow us the power to identify a significant difference between the two groups if outcomes for the treatment group were 5.4 percentage points higher than the expected control outcome of 15%.

Notably, we are seeking to understand not only outcomes for participants as a whole, but outcomes for particular categories of participants (women vs. men, individuals from different economic strata, educational backgrounds etc.). Maintaining the same power and significance levels for each of these groups would be extremely burdensome in terms of required sample size. To compare gender outcomes alone, given an equitable representation of young men and women in the sample, we would need to ensure that we double the sample size to secure the same results as outlined above. Given that the maximum number of female survey participants would be 400, this figure would allow us to keep all of the above assumptions and reject the null hypothesis if female participant outcomes were 7.8 percentages higher than those of female non-participants. At the same time, if we were to reduce significance to 90% (.10) and assume the initial differences in impact (15% vs. 25%), we would require a sample of 195 individuals to reject the null hypotheses for each smaller sub-group.

The analyses above depend on a two-sided test, which presents an assessment of statistical capacity to determine whether or not outcomes for the treatment group would be statistically different from those of the control group, whether or not that outcome is below or above that of the control group. This test is more rigorous than a one-sided test, wherein one would assume that outcomes for the treatment group would be either better than those of the treatment or no worse: as such, it assumes that the program does no disservice to beneficiaries. Deploying a one-sided test suggests that we would be better able to determine significant differences with smaller sample sizes. Assuming the initial case above (total sample, 95% confidence and a power of .80), we would require a sample size of only 197 participants and 197 non-participants to determine a significant difference. At the same time, given a total sample size of 1600 (800 participants and 800 non-participants), we would be able to reject the null hypothesis should outcomes for participants be only 4.7 percentage points higher than expected 15% for non-participants.

6. Data for the Evaluation

² MEDA Maroc. Annual Impact Assessment Report: YouthInvest: Financial and Non-financial Innovation for Youth in Morocco . November 2010.

Data collection will use a variety of techniques designed to expand the outreach and access to the sample groups. An extensive pre-testing of the survey instrument will be conducted prior to baseline. The testing will pilot a number of different survey techniques including computer based and face-to-face surveys. The quality of the data will be compared before deciding which survey technique or mix of techniques to employ.

Nevertheless, the study team is keen on using supervised, self-administered, computer-based questionnaires where possible. In these cases, a location and date will be specified and respondents will be requested to fill out questionnaires in the presence of several enumeration supervisors. A number of computer stations will be set up in a room, the computers will be supported by computer-based personal interviewing software or web-based survey software. Every attempt will be made to eliminate paper-based questionnaires.

Missing respondents or respondents that are not literate enough to complete the self-administered survey will be interviewed in their household or will be called for a phone interview, with the enumerator using a computer-based survey to enter responses.

The baseline survey will be designed to capture a range of individual-level data, as well as important data about the individual's household and its members. This includes tracking information, pre-intervention levels related to the proposed outcomes of the study, and pre-intervention controls or determinants of heterogeneity, as detailed below:

Tracking information:

- Current and permanent address (GPS if possible)
- Email address, telephone number and mobile number (where available)
- Contact information for one family member and one friend

Pre-intervention levels associated with outcomes:

- Previous training in life skills, computer skills, basic business skills, or civic activism;
- Previous employment experience (formal or informal, paid or unpaid);
- Past experience in volunteerism or civic engagement;
- Household assets/income (income always difficult to assess accurately);
- Psychosocial well-being (self-assessment of capabilities, relationships with family and community).

Pre-intervention controls and determinants of heterogeneity:

- Basic demographic characteristics (age, gender, household size and relationship to members, marital status, etc.);

- Parental characteristics (education, occupation, health);
- Initial human capital (educational attainment, literacy, numeracy);
- Initial social capital (group participation, quality of family relationships, perceived ability to raise financial resources through family networks, etc.).

Data collection will last for 15 months and will include a baseline survey to be conducted in September 2012, a tracing exercise to be completed in May 2013 and the follow-up survey in, at the latest, December 2013 (one year after completion of training). The baseline survey will be administered after the randomized selection has taken place, but before applicants are informed whether or not they have been accepted, and before the beginning of the intervention. The detailed follow-up survey to be carried out 12 months after completion of training will reflect the questions asked in the baseline, where follow-up questions are required. Questions may be added, revised or dropped following a review of results from the baseline. The surveys and protocols (and any revised or added questions in the follow-up survey) will be tested and evaluated prior to use in securing evaluation results.

Baseline and follow-up surveys will be deployed by a consultancy firm with experience in fielding surveys for youth in Morocco and in at-risk communities. This firm will not be related to MEDA or its partnering institutions in order to ensure independence and objectivity. This firm will also be responsible for encoding and cleaning collected data.

7. Impact evaluation timeline

	Timeline							
	2012		2013				2014	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Prepare marketing campaign/draft baseline	■							
Impact evaluation design	■							
select local survey firm	■							
Marketing campaign for vocational and youth centers	■							
Deadline for applications from participants	■							
Random selection of participants	■							
Baseline survey	■							
Exposure to treatment	■	■						
Baseline analysis and reports			■	■				
Tracking survey				■	■			
Follow-up survey					■	■		
Impact analysis and reports							■	■

8. Research team

- **Lead PI:** Jean Louis Arcand – The Graduate Institute, Geneva
General responsibility for evaluation design, quality assurance, economic analysis of impact
- **PI:** Touhami Abdelkhalek- Supérieur à l'Institut National de Statistique et d'Économie Appliquée (INSEA), Rabat, Maroc.
Research/evaluation design, analysis, reporting, evaluation logistics and data collection activities
- **PI:** Paul Dyer – Middle East Youth Initiative, Washington/Doha
Research/evaluation design, analysis, reporting, evaluation logistics and data collection activities
- **PI:** Susana Puerto – Youth Employment Network, Geneva
Research/evaluation design, analysis, reporting, evaluation logistics and data collection activities

Research associates

- Khadija Saoudi – MEDA Morocco
Communicate with partners; supervise implementation of project; quality control for data collection
- Adil Sadoq – MEDA Morocco
Communicate with partners; supervise implementation of project; quality control for data collection
- Drew Gardiner – Youth Employment Network, Geneva
Communicate with partners; supervise implementation of project; quality control for data collection

9. Budget – see attached