Winning Hearts and Minds?

Evidence from a Field Experiment in Afghanistan[1]

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Abstract:

Recent experience out of Iraq and Afghanistan has seen the use of development programs as a tool for counterinsurgency.   This population-centric strategy presumes a legitimate government which can sway the population away from the insurgency provided it can guarantee the reliable delivery of goods and services in its embattled periphery. We test this founding presumption of the US counterinsurgency manual in the context of Afghanistan. Specifically, using a randomized field experiment, which spans 500 villages across 10 districts in six Afghan provinces, we examine the effect of the National Solidarity Program—the largest development program in the country—on villagers' attitudes towards their well-being and their government. We also look at the effects of this community driven development program on local security. We find that the introduction of this program has led to a significant improvement in villagers' perception of their economic wellbeing as well as in their attitudes towards the government—be it on the local or central level. However, we do   not   find   any   notable   effects   on   the   security   situation   in   and   around   villages.

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I. Introduction

Insurgency and civil war have long been associated with far flung, weak and poverty-stricken states (Collier and Hoeffler 2001, Fearon and Laitin 2003). The recent conflicts in Iraq and Afghanistan, however,—which have seen notably large deployments and significant costs in blood and treasure— have generated an increased interest in effective counterinsurgency. Development programs aimed at improving material conditions in conflict areas have been recognized as an important ingredient of counterinsurgency doctrine in Iraq and Afghanistan, as reflected in the recent U.S. Army's *Counterinsurgency Field Manual* (U.S. Army/Marine Corps, 2006). The doctrine emphasizes the need to secure popular support to defeat the insurgents. In this framework, development projects are seen as a way to win "hearts and minds." Once people observe that such works and services provided by the government (or by a foreign military that backs the government) improve their economic situation, the logic goes, they become less likely to help or join the insurgents.

Despite the important role that development projects are beginning to play in counterinsurgency efforts, there is very limited empirical evidence on the subject. To the best of our knowledge, there are only two recent studies that look at the effect of development programs on the level of violence. Berman, Shapiro and Felter (2009) analyze the effect of reconstruction funds allocated through the Commanders' Emergency Reconstruction Program (CERP) in Iraq. They find that increased spending led to a decrease in violence, although only after a significant increase in troop strength in 2007. Crost and Johnston (2010) examine the effect of a KALAHI-CIDSS development assistance program in the Philippines, and find that the program actually exacerbated violence.

The difference in the results of these two studies can be attributed to the differences in the nature of the conflicts and/or to the divergent characteristics of the development programs.[2] The war in Iraq started in 2003 and has involved foreign military forces as a main party to the conflict. The civil conflict in the Philippines, on the other hand, has been ongoing for over four decades and involves no foreign occupier. The mechanism of aid delivery is also different. CERP in Iraq is a relatively small-scale program carried out by the military. The funds are in the discretion of military commanders who use them for the implementation of security-enhancing local projects. In contrast,

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[2] Clearly, the differences can also be attributed to the differences in the methodological approaches in the studies.

KALAHI-CIDSS is the biggest development program in the Philippines, run by the government and funded through World Bank loans.

One of the main challenges in the empirical analysis of the effect of development aid on security is the non-random assignment of aid. Selection bias can lead to either an upward or a downward bias depending on the context. If the delivery of aid was determined by the ease of access and safety of the personnel, development funds would be delivered to relatively safe regions, leading to a spurious negative relationship between aid and the level of violence. On the other hand, if aid was purposely targeted into the areas which are more vulnerable because of high insecurity, that would lead to a spurious positive relationship between aid and violence. The two aforementioned papers employ different empirical strategies to address these issues. Berman, Shapiro and Felter (2009) carefully control for region-specific characteristics and preexisting trends in violence, whereas Crost and Johnston (2010) employ a regression discontinuity design.

Our study differs from these existing works in two important ways. First, we use a randomized field experiment on a community driven development program—Afghanistan's National Solidarity Program (NSP)—to deal with the problem of selection bias. Specifically, out of 500 villages in our sample, half were randomly assigned to receive the development program in 2007, whereas the other half of the villages will receive the program no earlier than fall of 2011. Random assignment ensures that the results are not driven by selection bias and that they actually capture the causal impact of the development program. Second, in addition to events data on security incidents employed in previous works, we primarily base our analysis on survey data we collected in the field. This allows us to measure the perceptions and attitudes of the civilian population, enabling us to test the proposed mechanisms through which development programs affect the security situation.

If NSP is an effective counterinsurgency tool, we would expect that to be reflected in improved perceptions' of an individual's well-being (because of improvement or at least perception of improvement in access to services and socioeconomic conditions) as well as an improvement in individuals' attitudes towards the government (be it local or central). Specifically, we would expect that in villages that receive development aid, villagers will have more positive perceptions of their economic situation broadly defined, which would lead to better attitudes towards the government, which would, in turn, lead to lower levels of violence.

In comparing the results of our study with the aforementioned works, it is important to note, that the design of the NSP program is closer to the KALAHI-CIDSS program in Philippines, rather than CERP in Iraq. NSP is a large-scale community-driven development program, which is funded by a pool of international donors, run by the Afghan Ministry of Rural Rehabilitation and Development and implemented by civilian facilitating partners. During mobilization of the communities the program is presented as a government program and, thus, in the eyes of NSP recipients this development aid is primarily linked to the Afghan government (though it could to some extent also be attributed to the efforts of NGOs (who are implementing the project) and foreign donors (who are sponsoring it)).

Our findings indicate that NSP has a strong positive effect on people's perceptions of their economic wellbeing and on their attitudes towards the Afghan government (both central and local). NSP also appears to improve the attitudes toward NGOs and, to some extent, coalition forces on the ground. These changes in attitudes and perceptions point in a positive direction in the battle for hearts and minds. However, there is no evidence that NSP affects the local security situation. In addition to our survey data, we use ISAF coalition forces reports of security incidents to measure the level of violence in and around different locations. There appears to be no link between the ISAF security events data and the delivery of aid through NSP, although there is some evidence that villagers have more positive perceptions on the level of security in NSP villages.

Although we do not observe any positive effects of the program on the security situation in and around villages, this does not necessarily indicate that the program is not benefiting counterinsurgency efforts on that front. First, out data only allow us to observe short-term outcomes, whereas the increased support for the government might actually affect the security situation on the ground only in the long run. Second, a positive effect of the increased support for the government on the security situation might be counteracted by increased efforts on the part of the insurgents to capture the material benefits delivered by the program or to punish the villages that receive aid from the government. Finally, potential externalities between villages might be masking the true effect of the program—i.e if NSP makes villagers less likely to support insurgents and more likely to share information with counterinsurgents, this can lead to a decrease in violence not necessarily in the village itself or its immediate vicinity, but in a wider area. In this case village-level analysis of the security situation will not detect these broader effects.

The paper is divided into five sections. Section II describes the relevant literature. Section III provides a description of NSP and the randomized evaluation of the program. Section IV presents the empirical hypotheses. Section V presents the data sources and offers an initial description of the data. Section VI describes the methodology and results of the empirical analysis, which are then discussed in Section VII. Section VIII concludes.

II. Literature Review

The body of social science work on internal conflicts to-date has focused on civil wars as a whole rather than just on insurgencies. Specifically, it has looked at the structural conditions of civil war onset (Collier and Hoeffler 2004; Fearon and Laitin 2003), processes of violence (Kalyvas 2006, Downes 2006), organization (Arjona and Kalyvas 2007, Weinstein 2007), duration (Fearon 2004, Elbadawi and Sambanis 2000), as well as on civil war termination (Walter 1997; Fearon and Laitin 2008; Toft 2010). Existing findings tell us that civil wars are more likely to start in places with low GDP per capita—a measure which, among others, has been used to proxy low state capacity (Fearon and Laitin 2003) as well as the opportunity cost for insurgency (Collier and Hoeffler 2004); they are likely to be long lasting (a mean of over 10 years and a median of seven years in the post 1945 context irrespective of whether they were separatist wars or wars for control of the center); and over two thirds of them are likely to end in decisive victory rather than negotiated settlement.

Armed conflicts can be broadly divided into two types (Blattman and Miguel, 2010). The first type treats warring groups as unitary actors. Models of this type emphasize information asymmetries and commitment problems as the reasons that could lead to violent conflicts (e.g. Fearon, 1995; Powell, 2002, 2006). The second type of models looks at the micro-level dynamics of group conflict, i.e. at incentives of individual agents to join and support different groups during the war. The latter class of models is the most relevant for the analysis of counterinsurgency, since it directly concerns the factors that affect the willingness of the population to support either the insurgents or the government.

The recent wars in Iraq and Afghanistan have led to a surge in the study of counterinsurgency, which looks only at that specified subset of largely irregular and asymmetrically fought civil wars and has evolved in a distinct and often parallel fashion. Recent works have looked at counterinsurgency success or failure by examining levels of mechanization (Lyall and Wilson 2009), levels of manpower (Friedman, 2010), violence (Lyall, 2009; Kalyvas, 2006), the role of ethnicity (Lyall, 2010), interaction

of strategies between state and insurgents (Arreguin-Toft, 2001) or in-state counterinsurgency campaigns (Lalwani, 2010). What the literature suggests so far is that the number of boots on the ground is not a decisive determinant of counterinsurgency outcomes; increasing levels of mechanization appear to have an adverse effect on counterinsurgency; and co-ethnics make for better counterinsurgents than external forces. Findings diverge on whether a state's use of indiscriminate violence incites more insurgent attacks or whether it curtails them.

Looking at macroeconomic factors behind conflict, Berman, Felter, and Shapiro (2009) examine the correlation between unemployment rates and the rate of insurgent attacks in Iraq and the Philippines. Contrary to Collier and Hoeffler's (2004) opportunity-cost theory (that men pick up arms because they have no income-generating activities to keep them busy), they find that there is a negative relationship between unemployment and attacks against the government and allied forces and no significant relationship between unemployment and the rate of insurgent attacks that kill civilians. Condra et al (2010) analyze the effect of civilian casualties on insurgent violence. They find that in Afghanistan civilian casualties lead to increased insurgent violence over the long-run, but do not have any effect in the short-run, which is consistent with a "revenge" effect. In Iraq, however, they find that civilian casualties only lead to a short-run increase in violence. They interpret these results as indicating that in Afghanistan insurgents face labor constraints and the level of violence is determined primarily by the number of willing combatants, whereas in Iraq insurgents face an information constraint, so that the level of insecurity is determined primarily by the willingness of the people to share information with the counterinsurgents. In addition, Dube and Naidu (2010) study the effect of military assistance on violence in Colombia. They find that U.S. military aid leads to differential increases in attacks by paramilitaries, but has no effect on guerilla attacks.

Irrespective of the aforementioned social science findings on insurgencies and civil wars, what has arguably dominated the discussion on counterinsurgency as of late, in policy and academia alike, is the recent counterinsurgency manual (U.S. Army/Marine Corps, 2006). Largely informed by doctrines developed to address communist or anti-colonialist revolutionary movements (Kalyvas, 2008), the manual's counterinsurgencies are not about resources or greed. The fight is a competition over control of the state with the counterinsurgents hoping to win the war by targeted violence, population protection and governance and development initiatives. And they tend to involve external interveners that back the local government against the insurgents.

Specifically, the manual's prescription for population protection over enemy targeting—the counterinsurgency type presently under way in Afghanistan and of direct relevance to the empirics presented in this paper—privileges defense over offense, and is centered around requirements for sound knowledge of the local culture and curtailment of violence even at the risk of military lives (Biddle, 2008). The manual rests upon specific assumptions about the type of insurgency fought and the relationship between the host government and the outside intervener. Specifically, the government is seen as a legitimate actor that represents the general wellbeing of the state's population and needs to be supported by the external intervener since its power is under threat. It also presumes that basic security and public goods' provision can turn people away from the insurgency to the ranks of the government, while remaining agnostic to other non-instrumental bonds (such as ideological or ethnic) that the insurgents may have to the people (Kalyvas, 2008). The presumption is that if security is adequately addressed, the fear that may induce people to turn to their co-ethnics for protection will disappear.

Based on the social science literature on civil wars, however, the verdict is still out on whether ideological or civil wars are characterized by different dynamics (and what the relevant subsamples of categories in civil wars are) and existing literature on civil wars has different prescriptions for different conflicts suggesting partition, or external powerbrokers to resolve commitment problems in identity conflicts and seeing ideological conflicts more likely to fit the counterinsurgency manual prescriptions. Regardless of what the apt distinction of these conflicts is, if the government is seen as serving one group in a way that the inclusion of the other group poses a survival threat to its interests, the provision of security and services may not suffice to assuage suspicions and lack of trust.

The counterinsurgency manual sees a vital role in civilian agencies providing development assistance, a role that the military would take upon itself if civilian agencies are unable to do so. Given that counterinsurgency is expensive—in both lives and money—the actors involved in it, being the government, or outside powers, are concerned with waging it in a cost-effective manner. Whether development aid is effective in curtailing an insurgency is therefore of crucial interest. We turn to that next through the discussion of our on-going field experiment.

III. Description of the Experiment

III.1. National Solidarity Programme

The National Solidarity Programme (NSP) which began operations in June 2003 is Afghanistan's largest development programme. NSP uses the community-driven model of aid delivery, and is structured around two major interventions at the village level. With a view to building representative institutions for village governance, NSP mandates the creation of a Community Development Council (CDC) in each village. CDCs are created through a secret-ballot, universal suffrage election and composed of an equal number of men and women. The second principal intervention of NSP is to disburse block grants, valued at $200 per household up to a village maximum of $60,000, to support the implementation of projects designed and selected by the CDC in consultation with the village community. Projects are ordinarily focused on either infrastructure, such as drinking water facilities, irrigation canals and roads, or services, such as training and literacy courses. NSP is executed by the Ministry of Rural Rehabilitation and Development (MRRD) of the Government of Afghanistan, funded by the World Bank and a consortium of bilateral donors, and implemented by around 25 NGOs.

By mid 2010 NSP had already been implemented in over 29,000 villages across 361 of Afghanistan's 398 districts at a cost of nearly $1 billion.

III.2. Sample

The field experiment described in this paper was conducted as part of an impact evaluation of the NSP. Ten districts with no prior NSP activity that had sufficiently large number of villages and satisfactory security conditions were selected for evaluation. Although none of the ten sample districts are drawn from Afghanistan's southern provinces due to security constraints, the districts otherwise provide a reasonably balanced sample of Afghanistan's major regions, including the western, central highlands, northern, northeastern, and eastern regions (see Figure 1). The ten districts also provide a representative sample of Afghanistan's ethno-linguistic diversity, with five predominantly Tajik districts, four predominantly Pashtun districts, and one predominantly Hazara district. The districts of Balkh and Gulran also contain significant numbers of Uzbek and Turkmen minorities, respectively. The seven NGOs contracted to work in the sample districts provide a mix of small and large, international and local NGOs.

At the household level, the sample also appears to be broadly representative of the population of rural Afghanistan. A comparison of key characteristics of household respondents for the first follow-up survey of the NSP impact evaluation and those of the 2007–08 National Risk and Vulnerability Assessment (NRVA), administered to a random stratified sample of the population of Afghanistan, reveals only small differences between the two samples. Households in the NSP evaluation sample are poorer, have worse access to medical services, and slightly better access to electricity, but the magnitude of the differences are rather small and the statistically significant differences between the samples are mainly driven by the large size of the NRVA sample. There is no significant difference in the age of respondents (see Table 1).

From each of the ten sample districts, 50 villages were selected by the assigned NGOs for inclusion in the study.[3] In each district, 25 villages were selected to be treatment villages using a matched-pair randomization procedure.[4] These villages received NSP following the administration of a baseline survey in September 2007, with the remaining 250 control villages assigned to not receive NSP until after the conclusion of the second follow-up survey in 2011.

III.3. **Assignment of Treatment**

To improve statistical balance between villages in the control and treatment groups, a matched-pair cluster randomization procedure was applied. The procedure proceeded in four stages.

1. *Village Clusters*. To minimize potential for spillovers between treated and untreated units, villages located within 1 kilometer were grouped in village clusters. Of the 500 sample villages, 107 were assigned to 41 village clusters. The number of villages in each village cluster ranged from two to six.

2. *Matched Pairs*. In each district, the 50 sample villages were paired into 25 groups of two using an optimal greedy matching algorithm, which matched villages to ensure similarity based on various background characteristics provided that the villages were not in the same village cluster.

3. *Assignment of Treatment*. In each matched pair, a random number generator was employed to decide which of the two villages would receive NSP. In order to minimize the probability of spillovers biasing estimated impacts, clusters of villages were assigned the same status.

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[3] In each district NGOs chose another 15 communities that received NSP and were not included in the experiment.
[4] A full description of the selection and randomization procedure can be found at: www.nsp-ie.org

4. *Violations of Clustering Restrictions*. In a few districts, the large number of clustered villages precluded the co-assignment of all the villages in the same village cluster to the same treatment status. For cases in which assignment of treatment status without a violation of the clustering restriction was not possible, the number of violations was minimized through a simulation approach.[5]

As expected, the randomization procedure was successful in ensuring statistical balance between treatment and control groups. Table 2 below presents means, normalized differences,[6] and t-statistics for important variables using data from the baseline survey.[7] A comparison of means and normalized differences indicates that the treatment assignment mechanism produced very high levels of statistical balance between the treatment and control groups. Among the variables listed, the difference between the means of the two groups is always smaller than 6 percent of the standard deviation.

The experiment also introduced variation in the method of election of the Community Development Council and in the method of selection of the projects. All the treatment villages were randomly assigned one of the two election methods and one of the two selection methods. (The results of this intervention are described in Beath, Christia and Enikolopov (2010a, 2010b). For the purposes of this study, however, we do not separate treatment villages into different groups.)

CDC elections and project selection processes were monitored in order to provide an independent and systematic accounting of their implementation. Elections were monitored in a randomly selected set of 131 villages and project selection was monitored in a randomly selected set of 127. Overall, our monitoring results indicate that the NGOs carried out both CDC election and project selection procedures as instructed and that villagers were in command of the procedures pertaining to NSP.[8]

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[5] The clustering restriction was violated in 17 village clusters (covering 44 villages).

[6] Per Imbens and Wooldridge (2009), normalized differences are differences divided by pooled standard errors.

[7] This exercise employs data from the male head-of-household baseline survey questionnaires administered to approximately 5,000 respondents across the 500 sample villages. The matching exercise described in steps 2 and 3 above did not draw on data from the baseline survey, but rather uses data collected a few years earlier conducted by the Central Statistics Organization(CSO) and geographic variables constructed by the authors.

[8] A detailed description of the monitoring results can be found at: www.nsp-ie.org

IV. Hypotheses

According to the "hearts and minds" model of counterinsurgency (e.g. Berman et al, 2008), development programs positively affect people's economic welfare, which in turn improves their attitudes towards the government, and, as a consequence, decreases insurgent violence. We proceed to formulate three empirical hypotheses related to all three steps in the predictions of the model.

Hypothesis 1. In villages mobilized under NSP people will have more positive perceptions of their economic wellbeing.

We focus on perceptions, rather than objective measures for two main reasons. First, since NSP development projects take quite a long time to implement, the first follow-up survey was conducted at the stage when the projects were initiated, but had not been fully functional. Thus, we do not expect NSP to have an effect on outcomes such as income, consumption or assets. However, one could anticipate an effect on people's perception of their economic welfare and their expectations about their future economic wellbeing. Analysis presented in the report on the interim program impact confirms that the program did not affect measures of income, consumption or assets, but did have an effect on the perception of economic wellbeing. [9] Second, since in the "hearts and minds" model the behavior of people is primarily determined by their attitudes, a subjective perception rather than an objective measure of their economic situation would be expected to play a decisive role in determining people's behavior. As an objective measures, which should reflect perception of current and future economic wellbeing, we also look at the net migration to communities.

Hypothesis 2. In villages mobilized under NSP people will have more positive attitudes towards the central government, NGOs and ISAF soldiers.

This hypothesis tests the next step in the logic of the "hearts and minds" model. Namely, that the material benefits received by the population will improve their attitudes toward the bodies that provide these benefits. Since NSP is managed by the central government of Afghanistan, but funded by international donors and implemented on the ground by NGOs, we should expect an improvement in villagers' attitudes toward all these parties.

Hypothesis 3. The security situation in villages mobilized under NSP should be better than in villages without the program.

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[9] The report is available at www.nsp-ie.org/reportsimpacts.html

Finally, according to the "hearts and minds" model, improved attitudes towards the government and international forces should decrease popular support for the insurgents, which should in turn lead to a decrease in security incidents. Hypothesis 3 is the most tenuous, since "greed" theory (Collier and Hoffler, 1998) and "bargaining" theory (Crost and Johnston, 2010) predict that NSP would lead to an increase in insecurity. According to "greed" theory insurgents motivated by the desire to capture material resources provided by the program are more likely to attack treatment villages. According to the "bargaining" theory of conflict, an increase in the resources available to villages leads to a breakdown of bargaining between village leaders and local insurgent groups.

V. Data

V.1. Data Sources

Data for this paper come from three sources: our baseline survey, our follow-up survey, and ISAF data on security incidents.

Baseline Survey. Data from the baseline survey was collected during August and September 2007 before randomization took place. The survey consisted of four different instruments: (a) a male household questionnaire administered to ten randomly-selected male heads-of household in each village; (b) a male focus group questionnaire administered to a group of village leaders in each village; (c) a female focus group questionnaire administered to a group of important women who tended to overwhelmingly be wives or other relatives of the village leaders; (d) a female individual questionnaire. Because of logistical and cultural constraints instruments aimed at female participants could be administered in only 406 of the 500 evaluation villages.

Follow-up survey. Data from the follow-up survey was collected between May and October 2009. The follow-up survey was administered after the elections of the CDCs and the selection of the projects had taken place, and work on their implementation had started, but before all the projects were fully completed. The follow-up survey consisted of the same four instruments as the baseline survey, although the questions in the baseline and follow-up surveys were somewhat different. In addition, the female individual questionnaire was administered differently during the baseline and the follow-up surveys. During the baseline survey, it was administered to the same participants as the female focus group but was conducted on a one-to-one basis. During the follow-up survey, it was

administered to the wife of the respondent of the male household questionnaire.[10] Detailed information on the coverage of the baseline and follow-up survey can be found in Table 2.[11]

Not all 500 sample villages were able to be surveyed during the first follow-up survey due to a deterioration in security conditions affecting 11 treatment and 15 control villages, located primarily in the districts of Sherzad and Daulina. Cultural sensitivities precluded the administration of female household and female focus group questionnaires in an additional 21 control and 22 treatment villages spread across Sherzad, Daulina, Adraskan, and Chisht-e Sharif. In both cases the attrition was not related to the treatment status of the villages and differences between treatment and control groups in village-level attrition are not statistically significant.

Enumerators administering the male household questionnaire for the first follow-up survey were instructed to locate and interview the same households and, whenever possible, the same villagers who participated in the baseline survey. During the first follow-up survey, enumerators were able to successfully administer the male household questionnaire to male respondents in 65 percent of households in which male respondents were interviewed during the baseline survey. The predominant reason for enumerators not being able to interview baseline respondents was that the person was away from home on the day that the survey team visited the village as it was the time of harvest. Differences between treatment and control groups in individual-level attrition are not statistically significant.

Security incidents. Data on security incidents comes from the ISAF Combined Information Data Network Exchange (CIDNE) database, which includes declassified fields such as date, time, location, and type of attack.[12] The data contains information on all security incidents in ten evaluation districts for the period between March 2003 and March 2010. Overall, there were 535 security incidents before the start of mobilization of villages under NSP in these districts in October 2007 and 688 such incidents after the start of NSP activities. Almost all the incidents are related to Improvised Explosive Devices (IED), with 45% of incidents being IED explosions and 53% incidents in which IED was found and cleared. The remaining two percent of incidents were related to mine strikes.

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[10] During our baseline survey, an individual survey was administered only to female elites because of logistical constraints. During our follow-up survey potential panel data on individual responses of the female elites was sacrificed in order to measure attitudes of the ordinary female villagers.

[11] A comprehensive account of the results of the baseline and follow-up surveys is available at: www.nsp-ie.org

[12] We are grateful to Jason Lyall for generously sharing this data with us.

Using this data we constructed dummy variables that indicate whether there was at least one security incident starting from October 2007 within 1, 5 or 10 kilometers of a particular village. We construct a similar measure for incidents prior to October 2007 to control for preexisting differences between the villages. We also separate incidents in which an IED was found and cleared from those, in which an IED explosion took place.

VI.   Results

To compare outcomes in treatment and control villages we estimate a linear regression which includes a constant and a dummy variable, which equals one if the respondent comes from a village that was assigned to the treatment group and zero otherwise. To take into account that assignment of treatment was not independent in villages that belong to the same village-cluster, we cluster our standard errors at the village-cluster level. Since there is a noticeable variation in outcomes across districts, we also report specification with district fixed effects that were included to make the estimates more precise.

To test Hypothesis 1, we look at the effect of the program on villagers perceptions of their economic situation. Results indicate that there is a strong positive effect of NSP in that regard (see **Table 4**). Specifically, both male and female respondents in NSP villages are more likely to report that the economic situation in their household has improved as compared to a year ago. They are also more likely to indicate that they expect that the economic situation in their household will improve in the next year. For all the measures there is approximately 5 percentage points more respondents in NSP villages that have a positive view on the past and future trends in their economic situation, which corresponds to a 12% to 17% increase depending on the measure.

As an objective measure that should reflect peoples' perception of their current and expected future economic wellbeing in the village we use information on the net migration to the villages. The results in Panel C of **Table 4** indicate that migration to treatment villages is significantly higher. The magnitude of the effect is rather strong – the average net migration to treatment villages was more than 10 families, whereas in control villages it was only 4 families.

Overall, the program has a clear positive effect on the perception of improvement in people's economic situation. Thus, the results provide strong support for Hypothesis 1.

Next, we test Hypothesis 2 by examining the effect of the program on the attitudes of the villagers toward different government agents, NGOs and ISAF forces. The results reported in Table 5 indicate that respondents in NSP villages have more positive attitudes toward almost all government agents, including district and provincial governors, central government officials, the president of Afghanistan, members of parliament and government judges. The magnitude of the effect is similar in size to the magnitude of the effect on the perception of their economic wellbeing, which suggests that attitudes toward government agents improved primarily among those respondents, who thought that their economic situation has improved.[13] The program leads to an increase in the number of respondents who have a positive view of government agents, which varies between 7 percentage points for the district governor to 4 percentage points for the president of Afghanistan (corresponding to 10% and 5% increase respectively). National police is the only government body for which attitudes do not improve in NSP villages. There is also a positive effect of NSP on the attitudes of the villagers toward NGOs and a much weaker positive effect on their attitudes toward ISAF soldiers.

In the analysis we use multiple measures of attitudes toward government agents, NGOs and ISAF forces. To be able to draw general conclusions and to improve statistical power we use summary indices similar to the ones used in Kling, Leibman and Katz (2007). In particular, we create a summary index that averages together nine attitudinal measures. The summary index is defined to be the equally weighted average of z-scores of its components. The z-scores are calculated by subtracting the control group mean and dividing by the control group standard deviation. Thus, each component of the index has a mean equal to 0 and a standard deviation equal to 1 for the control group. The results for this summary measure indicate that the introduction of NSP improved villagers' attitudes by 10% of a standard deviation.

To test Hypothesis 3 we use two different sources of information. First, we examine the security experience and perceptions as reported by male and female respondents in the surveys. Next, we look at the reported security incidents based on ISAF data. Panels A and B in Table 6 present the results of the analysis based on the survey answers of the respondents. There is virtually no difference in reported security incidents between treatment and control villages. Approximately 3% of the respondents indicate that their village experienced an attack in the past year and that they

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[13] This conjectures is also confirmed by a very high correlation between perceptions of an improvement in economic wellbeing and positive attitudes to all government agents.

were themselves affected by insecurity in the village or on roads around the district. This apparently low number reflects the fact that the experiment was conducted in relatively secure regions of the country as mandated by human subjects considerations.

There is a difference between treatment and control villages in answers to the questions related to the perceptions of the security situation, once we control for district fixed effects. The number of male respondent in NSP villages who report an improvement in security situation in the past two years is 4 percentage points higher, whereas the number of respondents who think that the security situation has deteriorated is approximately the same. Among females the number of respondents who think that women and girls feel safer compared to two years ago is higher in NSP villages, but the difference is not statistically significant. However, the number of respondents who think that women and girls feel less safe is lower in NSP villages (the difference is statistically significant at 10% level).[14]

Similar to the attitudinal questions, we construct summary indices for the measures of security situation, with the sign of each measure oriented, so that more beneficial outcomes have higher scores. The results indicate that there is no difference in the security index that reflects the answers of male respondents, but there is a statistically significant improvement in the perception of security situation by female respondents of 9% of standard deviation once we control for district fixed-effects.

Finally, we use ISAF data to see if there is a difference in the number of security incidents that happened in the vicinity of treatment and control villages after the start of the program. The results in Panel C in Table 6 show that the number of incidents that happened within 1, 5 or 10-kilometer radius of each village was slightly lower for treatment villages, but the difference is not statistically significant.

To check for the robustness of the results we have included as additional controls the variables, that indicated the answer to the same (or the most closely related) question in the baseline survey. The results prove to be robust to the addition of such control, although some results loose their significance when we control for individual level controls (see Appendix I). However, the loss of the

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[14] Note that the three pairs of questions on improvement/deterioration of the security situation are not independent, since each pair is based on one question on the changes in the situation with three possible answers – the situation has improved, the situation have not changed, and the situation has deteriorated. We construct two dummy variables for improvement/deterioration of the security situation based on these questions to provide a meaningful comparison of the averages between the treatment and control villages.

results is driven not by addition of the controls, but by the reduction in the sample size, caused by individual-level attrition. We have also checked whether the effect of the program is different for two districts that come from the eastern province of Nangarhar (Sherzad and Hisarak) (which are in relative terms the more insecure areas in our sample) as well as for the four predominantly Pashtun districts in our sample (Adraskan, Balkh, Sherzad and Hisarak). Pashtun areas in Afghanistan are more problematic in terms of security, so it is important to check whether our results differ in any way in our Pashtun districts. The results indicate that for all the indicators there is no statistically significant difference in the effect of the program between Pashtun regions and other districts (see Appendix II). In two eastern districts the effect of the program is different for several measures reflecting attitudes towards the central government and civil society. In particular, in eastern districts the effect of the program on attitudes toward provincial governor, government judges and NGOs is significantly smaller. But on the whole, there is very little difference on the effect of the program in eastern districts and no difference when we partition our sample to focus specifically on Pashtun districts.

Overall, these results indicate that there is no noticeable effect of NSP on the security situation as measured by the number of security incidents (both reported by survey respondents and recorded by ISAF) or the existence of security issues reported by outside observers. However, there is some indication that subjective perceptions of the security situation are better in NSP villages.

VII. Discussion of Results

According to the "hearts and minds" model of counterinsurgency, development programs increase support for the government among the population through the provision of public goods and services. An increased support for the government, the rationale goes, makes people less likely to join or support the insurgents and more likely to share information about the insurgents with the government (e.g. Berman et al, 2009). This, in turn, should increase the cost of violence for the insurgents and decrease their activity.

The results show that NSP improves villagers perceptions' of their economic situation and improves their attitudes towards the government, which constitutes the first main steps in winning "hearts and minds.". However, there is no indication that this leads to observable improvements in security, although there is some evidence that the perception of the security situation is somewhat better among NSP villagers as well.

This non-finding may indeed mean that NSP has no effect on security. We should however note that there might be several other potential explanations as to why we do not observe an improvement in the security situation. First, other competing mechanisms might promote violence in villages covered by the program, so that a decrease in violence caused by greater support of the government only compensates for these mechanisms. Second, support by the villagers might not be a binding constraint for the insurgents in Afghanistan in the period under consideration. Finally, externalities among villages might mask the true effect of the program.

As mentioned earlier, the "hearts and minds" model is not the only one at work. According to both "greed" and "bargaining failure" theories, a development program might lead to an increase in violence, since insurgents would be willing to capture some of the resources provided by the program. Crost and Johnson (2010) show that in the context of a development program in the Philippines the bargaining failure led to a temporary increase in violence. In the context of NSP this positive effect on violence might fully counteract the negative effect caused by increased government support, preventing us from observing any effect of the program on violence. It is important to bear in mind that we are looking at the short-term effects of the program on violence, since we are measuring the outcomes while the program is still under way. An important feature of the bargaining model, however, is that it causes only a short-term increase in violence, whereas an increase in government support caused by the development program might have longer-term effects, especially, if the program continues to provide resources to the population. (We expect that our upcoming second follow up survey, which will take place after the completion of the development projects, will shed more light on this matter.)

Government support by the population increases their willingness to share the information with counterinsurgents. However, in the particular context under study this might not be the main determinant of the levels of violence at the local level. When analyzing the effect of civilian casualties on violence Condra et al (2010) find that in Afghanistan insurgents face a labor constraint, with the level of violence being primarily determined by the number of people willing to join the insurgents, whereas in Iraq they face an information constraint, with the level of violence being determined primarily by the amount of information that people share with counterinsurgents. In the context in which the information constraint is binding, an increased support for the government and greater willingness to share information would affect violence close to the village, since information regarding the insurgency is likely to be localized. At the same time, the labor constraint is biding and

increased support for the government would decrease the number of people in a village willing to join the insurgents. This, however, will not necessarily reduce the violence near the village, since the insurgents do not necessarily operate close to the place where they have been recruited.

The last point is closely related to the existence of externalities between the villages. An increase in government support in a particular village is likely to reduce violence not only near the village itself, but in the neighboring villages as well. The existence of such positive externalities between villages might prevent us from finding the true effect of the program. The clustering of neighboring villages, which was aimed at reducing such inter-village spillovers, might not be enough to address this issue as long as these positive externalities on the security affect villages are sufficiently strong. It might be the case that we are not finding differences in the level of violence between treatment and control villages not because there is no such effect, but because positive spillover from the program decreases the level of violence in both treatment and control villages. In this case, a single village might not be the proper unit of analysis, and we should be comparing bigger geographical units, such as districts. Unfortunately, we cannot perform such an analysis in the context of this field experiment, since the choice of the district was not randomized.

VIII. Conclusion

In this paper we analyze the effect of the National Solidarity Program— the largest development program in Afghanistan—on people's attitudes towards their economic wellbeing and the government. We also examine the program's effect on levels of security. Random assignment of the program across 500 evaluation villages allows us to estimate the program's causal effects. The results indicate that the program has a significant positive effect on the perception of economic wellbeing by the villagers and their attitude toward the central and local governments, as well as NGOs. There is also evidence of a weak positive effect on their attitudes toward ISAF soldiers. There is no evidence that NSP affects the level of violence in and around villages that have received the program.

The absence of the effect of the program on the level of violence can be driven by several confounding factors, including the desire of the insurgents to capture funds provided by the program or punish recipients of the government's aid, etc. Thus, although it does not undermine the main logic of the strategy of winning "hearts and minds" as a counterinsurgency strategy, it does show that this strategy has its limitations.

Overall, the evidence supports the initial steps in the mechanism underlying the strategy of winning "hearts and minds" through the provision of development projects. The project improves the attitudes of the civilian population toward the government and makes them more likely to think that the government is working in their best interest. This effect can play an important role beyond counterinsurgency and in the broader goal of state building in Afghanistan, by providing legitimacy to the central government. However, it is important to bear in mind that NSP, although funded by international donors, is provided by the Afghan government. Thus, these results cannot be easily generalized to programs in which development projects are delivered by a foreign military power (e.g. CERP in Iraq or Afghanistan), as in that case it is not entirely clear how these programs are perceived by the local population and whether such programs would improve the attitudes toward the government of the country in which the program is implemented.

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Figure 1. Ten Sample Districts

Table 1. Comparison of NSP Evaluation Sample with Representative Sample of Afghanistan's Rural Population

Indicator	NRVA (Rural Households)			NSP Follow-up Survey			t-statistics
	Mean	S.E.	Obs.	Mean	S.E.	Obs.	
Age of Male Respondent	43.04	0.12	16,143	42.68	0.23	4,660	1.381
Income from Primary Source (*Afghanis*)	60,950	468	16,065	58,618	1155	4,554	1.872
Household Engaged in Agriculture	0.661	0.004	16,143	0.723	0.007	4,625	-7.950
Access to Electricity	0.280	0.004	16,121	0.304	0.007	4,656	-3.065
Last Child Born is Alive	0.994	0.001	9,861	0.975	0.004	1,736	4.938
Last Birth Delivered at Home	0.871	0.004	9,817	0.892	0.007	1,744	-2.541
Last Birth Delivered in Hospital	0.065	0.003	9,817	0.036	0.004	1,744	5.625

Table 2. Statistical Balance between Treatment and Control Groups

Variable	Mean Level in Control Group	Mean Level in Treatment Group	Normalized Difference	*t*-Statistics
Number of Households in Village	103.02	109.76	0.07	0.76
Number of People in Household	9.87	9.76	- 0.02	- 0.42
Age of Respondent	43.30	43.80	0.04	1.10
Respondent Speaks Dari as Mother Tongue	0.69	0.70	0.04	0.45
Respondent Received no Formal Education	0.71	0.71	0.01	0.18
Household Has Access to Electricity	0.13	0.15	0.04	0.59
Male Health Worker is Available to Treat Villagers	0.10	0.13	0.12	1.32
Female Health Worker is Available to Treat Villagers	0.08	0.10	0.10	1.07
Main Source of Drinking Water is Unprotected Spring	0.27	0.27	- 0.00	- 0.02
Dispute among Villagers Occurred in Past Year	0.37	0.36	- 0.03	- 0.36
No Problems are Experienced in Meeting Household Food Needs	0.45	0.45	0.02	0.38
Household Borrowed Money in Past Year	0.48	0.47	- 0.02	-0.36
Respondent Reports Attending Meeting of Village Council in Past Year	0.30	0.31	0.03	0.59
Expenditures on Weddings in Past Year (*Afghanis*)	11,676	10,380	- 0.03	- 0.73
Expenditures on Food in Past Month (*Afghanis*)	3,644	3,566	- 0.04	- 0.68
Respondent Believes that Women Should be Members of Council	0.41	0.43	0.05	0.92
Views of Women are not Considered in Resolving Disputes	0.51	0.48	- 0.06	- 1.64
Assets	0.00	-0.01	- 0.02	- 0.52
Natural Log of Income	8.67	8.63	- 0.07	- 1.15

Table 3: Composition and coverage of the surveys.

	Baseline Survey (September 2008)	Follow –up Survey (May -October 2009)
Male Head-of-Household Questionnaire	4,895 in 500 villages	4,666 in 474 villages
Male Focus Group Questionnaire	5,334 participants in 500 villages	3,197 in 469 villages
Female Focus Group Questionnaire	3,670 participants in 406 villages	2,792 in 424 villages
Female Household Questionnaire	Not Conducted	4,234 in 431 villages
Female Individual Questionnaire	3,398 in 406 villages	Not Conducted

Table 4: Perceptions of Economic Situation.

Variable	Treatment	Control	Treatment Effect	Treatment Effect With District Fixed Effects	Number of Observations
A. Perceptions of Economic Situation by Male Respondents					
Respondent Perceives Household's Situation Has Improved in the Past Year	0.4587	0.4062	0.0525** [0.024]	0.0522*** [0.017]	4,662
Respondent Expects Economic Welfare of Villagers to Improve Next Year	0.3466	0.3018	0.0448** [0.018]	0.0471*** [0.016]	4,633
B. Perceptions of Economic Situation by Female Respondents					
Respondent Perceives Household's Situation Has Improved in the Past Year	0.3420	0.2865	0.0555** [0.026]	0.0521*** [0.019]	4,227
Respondent Expects Economic Welfare of Villagers to Improve Next Year	0.4321	0.3766	0.0555** [0.026]	0.0521*** [0.019]	4,213
C. Migration according to village leaders					
Net Number of Families Migrating to the Village	10.5172	4.3772	6.1400** [2.900]	5.9485** [2.3612]	460

Treatment effect is estimated in the regression, which includes a constant and a dummy variable for villages that have been assigned to the treatment group. Robust standard errors adjusted for clustering at the village-cluster level in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Perceptions of Government, Civil Society, and ISAF Soldiers (by male respondents).

Variable	Treatment	Control	Treatment Effect	Treatment Effect With District Fixed Effects	Number of Observations
District Governor Acts For the Benefit of All Villagers	0.7212	0.6536	0.0676** [0.028]	0.0651*** [0.019]	4,414
Provincial Governor Acts For the Benefit of All Villagers	0.7681	0.7070	0.0611** [0.028]	0.0568*** [0.019]	4,148
Central Government Officials Act For the Benefit of All Villagers	0.738	0.6884	0.0496* [0.026]	0.0469** [0.019]	4,256
President of Afghanistan Act For the Benefit of All Villagers	0.8449	0.8012	0.0437* [0.022]	0.0422*** [0.016]	4,490
Members of Parliament Act For the Benefit of All Villagers	0.6098	0.5566	0.0532** [0.026]	0.0581*** [0.020]	4,409
Government Judges Act For the Benefit of All Villagers	0.5635	0.5121	0.0514** [0.026]	0.0528** [0.022]	4,491
National Police Act For the Benefit of All Villagers	0.7433	0.7248	0.0185 [0.023]	0.0178 [0.018]	4,556
NGO Employees Act For the Benefit of All Villagers	0.7274	0.6843	0.0431* [0.023]	0.0456** [0.018]	4,472
ISAF Soldiers Act For the Benefit of All Villagers	0.3199	0.2892	0.0307 [0.023]	0.0357* [0.019]	4,062
Summary Measure	-0.0039	0.0964	0.1003** [0.041]	0.1008*** [0.030]	4,660

Treatment effect is estimated in the regression, which includes a constant and a dummy variable for villages that have been assigned to the treatment group. Robust standard errors adjusted for clustering at the village-cluster level in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6: Security Situation (continued on next page).

Variable	Treatment	Control	Treatment Effect	Treatment Effect With District Fixed Effects	Number of Observations
A. Security Experience and Perception by Male Respondents					
Village Has Experienced Attack in Past 12 Months	0.0324	0.0347	-0.0023 [0.013]	-0.0027 [0.012]	4,661
Village Has Experienced Attack by Anti-Government Elements in the Past Year	0.0274	0.0312	-0.0038 [0.012]	-0.0039 [0.011]	4,438
Respondent Household Has Been Affected by Insecurity in Village During the Past Year	0.0224	0.0186	0.0038 [0.008]	0.0037 [0.007]	4,660
Respondent Household Has Been Affected by Insecurity on Roads Around District During the Past Year	0.0289	0.0262	0.0027 [0.005]	0.0028 [0.005]	4,660
Respondent Believes Security In and Around Village Has Improved in Past Two Years	0.6927	0.6552	0.0375 [0.032]	0.0434** [0.020]	4,661
Respondent Believes Security In and Around Village Has Deteriorated in Past Two Years	0.1105	0.1210	-0.0105 [0.019]	-0.0143 [0.012]	4,661
Summary Measure	0.0059	0.0200	0.0141 [0.042]	0.0192 [0.034]	4,666
B. Security Experience and Perception by Female Respondents					
Respondent Believes that compared to two years ago women feel more safe in working for NGOs or the government or attending training courses	0.3653	0.3285	0.0368 [0.029]	0.0363 [0.025]	4,063
Respondent Believes that compared to two years ago women feel less safe in working for NGOs or the government or attending training courses	0.0963	0.1337	-0.0374 [0.025]	-0.0398* [0.021]	4,064
Respondent Believes that compared to two years ago teenage girls feel more safe when traveling to and from school or when socializing with other girls	0.357	0.3253	0.0317 [0.028]	0.0344 [0.025]	4,020
Respondent Believes that compared to two years ago teenage girls feel less safe when traveling to and from school or when socializing with other girls	0.1386	0.1759	-0.0373 [0.028]	-0.0381* [0.023]	4,020
Summary Measure	0.002	0.0893	0.0838 [0.051]	0.0872** [0.040]	4,103

Treatment effect is estimated in the regression, which includes a constant and a dummy variable for villages that have been assigned to the treatment group. Robust standard errors adjusted for clustering at the village-cluster level in brackets. * significant at 10%; ** significant at 5%; *** significant at

Table 6: Security Situation (continued).

Variable	Treatment	Control	Treatment Effect	Treatment Effect With District Fixed Effects	Number of Observations
C. ISAF data on security incidents					
Security incident within 1 km of the village	0.036	0.0560	-0.0200	-0.0200	500
			[0.020]	[0.018]	
Security incident within 5 km of the village	0.252	0.2760	-0.0240	-0.0240	500
			[0.048]	[0.026]	
Security incident within 10 km of the village	0.328	0.3480	-0.0200	-0.0200	500
			[0.050]	[0.027]	

Treatment effect is estimated in the regression, which includes a constant and a dummy variable for villages that have been assigned to the treatment group. Robust standard errors adjusted for clustering at the village-cluster level in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix I.

Outcome variable	Baseline Control	District Fixed Effects	Level of aggregation for baseline measures	Treatment Effect	Standard error	Observations
A. Perceptions of Economic Situation by Male Respondents						
Respondent Perceives Household's Situation Has Improved in the Past Year	Respondent Perceives Household's Situation Has Improved in the Past Year	No	Village	0.0523**	[0.023]	4,662
		Yes	Village	0.0520***	[0.017]	4,662
		No	Individual	0.0548**	[0.027]	2,644
		Yes	Individual	0.0525**	[0.022]	2,644
Respondent Expects Economic Welfare of Villagers to Improve Next Year	Respondent Perceives Household's Situation Has Improved in the Past Year	No	Village	0.0451***	[0.017]	4,633
		Yes	Village	0.0472***	[0.015]	4,633
		No	Individual	0.0151	[0.020]	2,627
		Yes	Individual	0.0185	[0.019]	2,627
B. Perceptions of Economic Situation by Female Respondents						
Respondent Perceives Household's Situation Has Improved in the Past Year	Respondent Perceives Household's Situation Has Improved in the Past Year (Male Respondents)	No	Village	0.0546**	[0.024]	4,227
		Yes	Village	0.0572***	[0.021]	4,227
		No	Individual	0.0663**	[0.029]	2,362
		Yes	Individual	0.0681***	[0.025]	2,362
Respondent Expects Economic Welfare of Villagers to Improve Next Year	Respondent Perceives Household's Situation Has Improved in the Past Year (Male Respondents)	No	Village	0.0485**	[0.023]	4,213
		Yes	Village	0.0484**	[0.022]	4,213
		No	Individual	0.0428	[0.027]	2,355
		Yes	Individual	0.0390	[0.026]	2,355
C. Migration According to the Village Leaders						
Net Number of Families Migrating to the Village		No	Village	6.322**	[2.778]	460
		Yes	Village	6.113***	[2.285]	460
D. Security Experience and Perception by Male Respondents						
Village Has Experienced Attack in Past 12 Months	Household has been affected by war and insecurity in Past 12 Months	No	Village	-0.0024	[0.012]	4,661
		Yes	Village	-0.0028	[0.012]	4,661
		No	Individual	-0.0060	[0.013]	2,644
		Yes	Individual	-0.0074	[0.012]	2,644
Village Has Experienced Attack by Anti-Government Elements in the Past Year	Household has been affected by war and insecurity in Past 12 Months	No	Village	-0.0022	[0.011]	4,664
		Yes	Village	-0.0027	[0.011]	4,664
		No	Individual	-0.0036	[0.012]	2,647
		Yes	Individual	-0.0049	[0.011]	2,647

Outcome variable	Baseline Control	District Fixed Effects	Level of aggregation for baseline measures	Treatment Effect	Standard error	Observations
Respondent Household Has Been Affected by Insecurity in Village During the Past Year	Household has been affected by war and insecurity in Past 12 Months	No	Village	0.0038	[0.007]	4,660
		Yes	Village	0.0036	[0.007]	4,660
		No	Individual	0.0027	[0.007]	2,645
		Yes	Individual	0.0020	[0.007]	2,645
Respondent Household Has Been Affected by Insecurity on Roads Around District During the Past Year	Household has been affected by war and insecurity in Past 12 Months	No	Village	0.0027	[0.006]	4,660
		Yes	Village	0.0027	[0.006]	4,660
		No	Individual	0.0049	[0.007]	2,645
		Yes	Individual	0.0043	[0.006]	2,645
Respondent Believes Security In and Around Village Has Improved in Past Two Years	Household has been affected by war and insecurity in Past 12 Months	No	Village	0.0362	[0.026]	4,661
		Yes	Village	0.0430**	[0.021]	4,661
		No	Individual	0.0204	[0.031]	2,646
		Yes	Individual	0.0221	[0.030]	2,646
Respondent Believes Security In and Around Village Has Deteriorated in Past Two Years	Household has been affected by war and insecurity in Past 12 Months	No	Village	-0.0101	[0.017]	4,661
		Yes	Village	-0.0142	[0.014]	4,661
		No	Individual	-0.0067	[0.019]	2,646
		Yes	Individual	-0.0089	[0.017]	2,646
E. Security Experience and Perception by Female Respondents						
Respondent Believes that compared to two years ago women feel more safe in working for NGOs or the government or attending training courses	Household has been affected by war and insecurity in Past 12 Months (Male Respondents)	No	Village	0.0358	[0.028]	4,063
		Yes	Village	0.0385	[0.025]	4,063
		No	Individual	0.0330	[0.034]	2,263
		Yes	Individual	0.0412	[0.030]	2,263
Respondent Believes that compared to two years ago women feel less safe in working for NGOs or the government or attending training courses	Household has been affected by war and insecurity in Past 12 Months (Male Respondents)	No	Village	-0.0380	[0.023]	4,064
		Yes	Village	-0.0410*	[0.021]	4,064
		No	Individual	-0.0302	[0.025]	2,264
		Yes	Individual	-0.0369	[0.023]	2,264
Respondent Believes that compared to two years ago teenage girls feel more safe when traveling to and from school or when socializing with other girls	Household has been affected by war and insecurity in Past 12 Months (Male Respondents)	No	Village	0.0320	[0.027]	4,020
		Yes	Village	0.0355	[0.025]	4,020
		No	Individual	0.0216	[0.033]	2,247
		Yes	Individual	0.0307	[0.030]	2,247
Respondent Believes that	Household has been affected by war	No	Village	-0.0385	[0.025]	4,020

Outcome variable	Baseline Control	District Fixed Effects	Level of aggregation for baseline measures	Treatment Effect	Standard error	Observations
compared to two years ago teenage girls feel less safe when traveling to and from school or when socializing with other girls	and insecurity in Past 12 Months (Male Respondents)	Yes	Village	-0.0420*	[0.023]	4,020
		No	Individual	-0.0186	[0.029]	2,247
		Yes	Individual	-0.0273	[0.026]	2,247

Panel F. Perceptions of Government, Civil Society, and ISAF Soldiers by Male Respondents

Outcome variable	Baseline Control	District Fixed Effects	Level of aggregation for baseline measures	Treatment Effect	Standard error	Observations
District Governor Acts For the Benefit of All Villagers	District Governor Acts For the Benefit of All Villagers	No	Village	0.0667***	[0.025]	4,414
		Yes	Village	0.0652***	[0.019]	4,414
		No	Individual	0.0668**	[0.029]	2,507
		Yes	Individual	0.0689***	[0.025]	2,507
Provincial Governor Acts For the Benefit of All Villagers	Provincial Governor Acts For the Benefit of All Villagers	No	Village	0.0570**	[0.024]	4,148
		Yes	Village	0.0568***	[0.019]	4,148
		No	Individual	0.0582**	[0.028]	2,297
		Yes	Individual	0.0601**	[0.025]	2,297
Central Government Officials Act For the Benefit of All Villagers	Central Government Officials Act For the Benefit of All Villagers	No	Village	0.0480**	[0.024]	4,256
		Yes	Village	0.0469**	[0.020]	4,256
		No	Individual	0.0516*	[0.028]	2,346
		Yes	Individual	0.0522*	[0.027]	2,346
President of Afghanistan Act For the Benefit of All Villagers	President of Afghanistan Act For the Benefit of All Villagers	No	Village	0.0416**	[0.020]	4,490
		Yes	Village	0.0424***	[0.016]	4,490
		No	Individual	0.0521**	[0.023]	2,460
		Yes	Individual	0.0509**	[0.022]	2,460
Members of Parliament Act For the Benefit of All Villagers	Members of Parliament Act For the Benefit of All Villagers	No	Village	0.0510**	[0.025]	4,409
		Yes	Village	0.0579***	[0.021]	4,409
		No	Individual	0.0594**	[0.029]	2,432
		Yes	Individual	0.0590**	[0.028]	2,432
NGO Employees Act For the Benefit of All Villagers	NGO Employees Act For the Benefit of All Villagers	No	Village	0.0429**	[0.022]	4,472
		Yes	Village	0.0456**	[0.019]	4,472
		No	Individual	0.0537**	[0.027]	2,429
		Yes	Individual	0.0500**	[0.025]	2,429

Appendix II.

VARIABLES	Treatment Effect		Pashtun		East		Pashtun* Treatment		East* Treatment		District Fixed Effects	Obs.
A. Perceptions of Economic Situation by Male Respondents												
Respondent Perceives Household's Situation Has Improved in the Past Year	0.053	[0.033]	0.075**	[0.038]	-0.170***	[0.046]	0.007	[0.049]	-0.008	[0.062]	No	4,662
	0.050**	[0.020]					0.010	[0.042]	-0.010	[0.061]	Yes	4,662
Respondent Expects Economic Welfare of Villagers to Improve Next Year	0.047**	[0.021]	0.160***	[0.033]	-0.196***	[0.045]	0.024	[0.044]	-0.054	[0.057]	No	4,633
	0.048**	[0.020]					0.023	[0.043]	-0.055	[0.056]	Yes	4,633
B. Perceptions of Economic Situation by Female Respondents												
Respondent Perceives Household's Situation Has Improved in the Past Year	0.036	[0.032]	0.120***	[0.043]	-0.320***	[0.040]	0.024	[0.058]	0.057	[0.058]	No	4,227
	0.033	[0.024]					0.025	[0.053]	0.054	[0.057]	Yes	4,227
Respondent Expects Economic Welfare of Villagers to Improve Next Year	0.054*	[0.031]	0.024	[0.036]	-0.158***	[0.050]	-0.035	[0.058]	0.058	[0.079]	No	4,213
	0.054**	[0.026]					-0.035	[0.052]	0.043	[0.073]	Yes	4,213
C. Migration According to the Village Leaders												
Net Number of Families Migrating to the Village	2.850*	[1.708]	5.864*	[3.173]	16.068**	[6.583]	-5.210	[3.754]	27.968**	[13.053]	No	460
	2.814*	[1.647]					-5.174	[3.404]	29.785**	[12.222]	Yes	460
D. Security Experience and Perception by Male Respondents												
Village Has Experienced Attack in Past 12 Months	-0.006	[0.019]	0.016	[0.026]	-0.044*	[0.023]	0.023	[0.033]	-0.028	[0.030]	No	4,661
	-0.007	[0.017]					0.025	[0.031]	-0.029	[0.030]	Yes	4,661
Village Has Experienced Attack by Anti-Government Elements in the Past Year	-0.008	[0.019]	0.011	[0.021]	-0.036*	[0.018]	0.031	[0.026]	-0.033	[0.023]	No	4,664
	-0.009	[0.017]					0.032	[0.024]	-0.034	[0.023]	Yes	4,664
Respondent Household Has Been Affected by Insecurity in Village During the Past Year	0.002	[0.012]	-0.003	[0.013]	-0.018	[0.011]	0.010	[0.017]	-0.013	[0.013]	No	4,660
	0.002	[0.010]					0.011	[0.016]	-0.013	[0.012]	Yes	4,660
Respondent Household Has Been Affected by Insecurity on Roads Around District During the Past Year	0.008	[0.007]	-0.010	[0.010]	-0.022***	[0.008]	-0.016	[0.015]	0.007	[0.014]	No	4,660
	0.007	[0.007]					-0.014	[0.013]	0.007	[0.012]	Yes	4,660
Respondent Believes Security In and Around Village Has Improved in Past Two Years	0.052*	[0.030]	0.129***	[0.039]	-0.389***	[0.074]	0.016	[0.056]	-0.093	[0.099]	No	4,661
	0.052*	[0.027]					0.013	[0.051]	-0.077	[0.056]	Yes	4,661
Respondent Believes Security In and Around Village Has Deteriorated in Past Two Years	-0.019	[0.021]	-0.045**	[0.023]	0.109**	[0.053]	-0.010	[0.035]	0.065	[0.067]	No	4,661
	-0.022	[0.017]					-0.007	[0.032]	0.055*	[0.033]	Yes	4,661
Summary index for security measures (male respondents)	0.027	[0.061]	0.059	[0.074]	-0.068	[0.078]	-0.030	[0.091]	-0.002	[0.095]	No	4,666
	0.032	[0.051]					-0.038	[0.078]	0.010	[0.066]	Yes	4,666

VARIABLES	Treatment Effect		Pashtun		East		Pashtun*Treatment		East*Treatment		District Fixed Effects	Obs.
E. Security Experience and Perception by Female Respondents												
Respondent Believes that compared to two years ago women feel more safe in working for NGOs or the government or attending training courses	0.057	[0.037]	0.037	[0.052]	-0.210***	[0.052]	-0.028	[0.070]	-0.075	[0.071]	No	4,063
	0.059*	[0.034]					-0.032	[0.063]	-0.065	[0.064]	Yes	4,063
Respondent Believes that compared to two years ago women feel less safe in working for NGOs or the government or attending training courses	-0.053*	[0.031]	-0.005	[0.050]	-0.055	[0.055]	0.066	[0.072]	-0.067	[0.076]	No	4,063
	-0.058**	[0.025]					0.075	[0.060]	-0.065	[0.069]	Yes	4,063
Respondent Believes that compared to two years ago teenage girls feel more safe when traveling to and from school or when socializing with other girls	0.051	[0.038]	0.042	[0.051]	-0.122**	[0.058]	-0.015	[0.070]	-0.098	[0.081]	No	4,020
	0.054	[0.034]					-0.021	[0.063]	-0.075	[0.065]	Yes	4,020
Respondent Believes that compared to two years ago teenage girls feel less safe when traveling to and from school or when socializing with other girls	-0.047	[0.033]	-0.018	[0.054]	0.148**	[0.065]	0.063	[0.077]	-0.081	[0.091]	No	4,020
	-0.053**	[0.026]					0.074	[0.063]	-0.084	[0.084]	Yes	4,020
Summary index for security measures (female respondents)	0.122*	[0.064]	0.064	[0.104]	-0.237**	[0.105]	-0.103	[0.144]	-0.006	[0.143]	4,102	0.122*
	0.133***	[0.050]					-0.122	[0.117]	0.012	[0.120]	4,102	0.133***
Panel F. Perceptions of Government, Civil Society, and ISAF Soldiers by Male Respondents												
District Governor Acts For the Benefit of All Villagers	0.066*	[0.036]	0.240***	[0.039]	-0.030	[0.040]	0.008	[0.049]	-0.017	[0.063]	No	4,414
	0.064***	[0.023]					0.011	[0.040]	-0.017	[0.063]	Yes	4,414
Provincial Governor Acts For the Benefit of All Villagers	0.086**	[0.036]	0.228***	[0.036]	-0.049	[0.038]	-0.019	[0.046]	-0.091*	[0.053]	No	4,148
	0.083***	[0.026]					-0.016	[0.039]	-0.094*	[0.052]	Yes	4,148
Central Government Officials Act For the Benefit of All Villagers	0.065*	[0.033]	0.168***	[0.038]	-0.005	[0.040]	-0.006	[0.050]	-0.073	[0.056]	No	4,256
	0.064**	[0.025]					-0.006	[0.045]	-0.075	[0.055]	Yes	4,256
President of Afghanistan Act For the Benefit of All Villagers	0.073**	[0.030]	0.146***	[0.030]	0.006	[0.027]	-0.052	[0.040]	-0.047	[0.039]	No	4,490
	0.071***	[0.023]					-0.050	[0.034]	-0.048	[0.039]	Yes	4,490
Members of Parliament Act For the Benefit of All Villagers	0.088***	[0.031]	0.205***	[0.040]	-0.397***	[0.043]	-0.042	[0.053]	-0.076	[0.061]	No	4,409
	0.090***	[0.025]					-0.043	[0.050]	-0.076	[0.062]	Yes	4,409
Government Judges Act For the Benefit of All Villagers	0.061**	[0.029]	0.088**	[0.036]	-0.288***	[0.040]	0.012	[0.049]	-0.108*	[0.062]	No	4,472
	0.061***	[0.023]					0.013	[0.046]	-0.109*	[0.062]	Yes	4,472
National Police Act For the Benefit of All Villagers	0.075**	[0.031]	0.017	[0.053]	-0.187***	[0.057]	-0.052	[0.068]	-0.005	[0.082]	No	4,491
	0.075***	[0.025]					-0.051	[0.064]	-0.009	[0.080]	Yes	4,491
NGO Employees Act For the Benefit of All Villagers	0.036	[0.029]	0.144***	[0.033]	-0.107**	[0.052]	0.016	[0.045]	-0.127*	[0.067]	No	4,556
	0.036	[0.022]					0.017	[0.040]	-0.131*	[0.067]	Yes	4,556

VARIABLES	Treatment Effect		Pashtun		East		Pashtun* Treatment		East* Treatment		District Fixed Effects	Obs.
ISAF Soldiers Act For the Benefit of All Villagers	0.051*	[0.026]	0.073	[0.047]	-0.252***	[0.047]	-0.047	[0.062]	0.017	[0.062]	No	4,062
	0.053**	[0.023]					-0.051	[0.061]	0.017	[0.062]	Yes	4,062
Summary Measure for attitudes toward government, civil society and foreign military	0.140**	[0.056]	0.316***	[0.067]	-0.297***	[0.068]	-0.031	[0.086]	-0.137	[0.092]	No	4,660
	0.138***	[0.039]					-0.029	[0.076]	-0.140	[0.091]	Yes	4,660