"The lesson from this report is clear: volunteer service is not only a feel-good calling—it may provide one of the more powerful, and one of the more fulfilling, avenues through which to reach the ambitious United Nations Sustainable Development Goals."

~ Lester M. Salamon

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HOW THE ROTARY/HOPKINS SURVEY WAS CARRIED OUT

The Hopkins survey utilized an official definition of “volunteer work” sanctioned by the International Labour Organization and a widely recognized methodology for handling survey non-respondents. Survey forms were sent via email by Rotary’s President to a carefully selected sample of Rotary club leaders in every Rotary region around the world. Club leaders were asked to distribute the surveys, either in electronic or paper form, to all of their club members. The survey asked respondents to recall and report information about each time they participated in Rotary-sponsored volunteer activities in the previous 4 weeks. Responses were then tallied, weighted by region, and adjusted to account for potential non-response bias. For further detail on the survey methodology, see the Appendix.

OVERVIEW

Service has long been recognized as a fundamental feature of Rotary membership. But neither Rotary nor any of the other major service organizations has been able to gain a meaningful handle on the actual scale or economic value of the volunteer effort they mobilize. But now, thanks to a recent internationally recognized methodology for measuring volunteer work, it has become possible to close this gap. In this report we present 10 findings generated through the first systematic application of this methodology to the volunteer promotion activity of a major international service organization. These findings powerfully demonstrate the significant renewable resource of volunteer effort that service organizations like Rotary are generating.
FINDING 1

Rotary’s volunteer workforce: 47 MILLION HOURS A YEAR and counting

The new survey makes clear that Rotary members are not merely “talking the talk” of service volunteering: they are also “walking the walk.”

According to the world-wide Hopkins survey, Rotary’s 1.2 million members volunteered a total of nearly 5.8 million hours in a recent four-week reference period. Even excluding the volunteering associated with Rotary’s World Polio Day, which was included in the survey reference period, Rotary members accounted for close to 5.1 million hours of volunteer effort during this four-week period.

And this does not even include the more than 1 million friends and relatives that members frequently bring with them to Rotary-organized volunteering engagements or the volunteering contributed by the more than 700,000 members of Rotary’s Rotaract, Interact, or Community Corp affiliates.

*If the overall Rotary membership maintains this level of volunteering over even nine months in a typical year, this translates into a conservative estimate of nearly 47 million hours of volunteer effort generated by Rotary members in a typical year.*
Put somewhat differently, once these hours of volunteer effort are translated into the number of “full-time equivalent” workers they represent, it turns out that Rotary International is mobilizing a workforce for social progress each year that is equivalent to nearly 27,000 full-time equivalent workers—nearly 50 times larger than its own 563 paid staff.

This is a remarkable record of leveraging the unique renewable resource for social problem-solving that volunteering represents.
FINDING 3

The economic impact of Rotary volunteering

The value of the time Rotary members give to volunteering has a significant economic, as well as social, value.

Even conservatively estimated, if communities and organizations had to pay for the services Rotary volunteers provide, it would cost them an estimated total of US$850 million a year. Rotary thus saves communities nearly US$850 million in service costs.

This is nearly nine times larger than the Rotary’s annual expenditures, underlining again the tremendous leverage that Rotary’s affiliated clubs achieve through their organization of volunteer opportunities for their members.
FINDING 4
Capturing the benefits of Rotary’s emphasis on service

The overwhelming majority of Rotary International members identified Rotary’s emphasis on service as one of the organization’s major attractions to its members.

From the evidence of this survey, it appears that Rotary members, and the Rotary organization, have delivered impressively on this feature.

HOW IMPORTANT WAS ROTARY’S FOCUS ON SERVICE TO YOUR DECISION TO BECOME A MEMBER?

- EXTREMELY IMPORTANT, 27.6%
- VERY IMPORTANT, 45.8%
- MODERATELY IMPORTANT, 20.7%
- SLIGHTLY IMPORTANT, 4.6%
FINDING 5

Gender and Rotary volunteering

Most Rotary-organized volunteering is carried out by men, but Rotary women contribute disproportionately to the total.

More specifically, Rotary men contributed more than twice as many total hours of volunteer work as Rotary women (58% versus 26% of total hours). That is not surprising since Rotary’s membership is predominantly male. However, while accounting for 65% of Rotary members, men accounted for a disproportionately smaller 58% of the volunteer hours.

By contrast, though only representing 24% of Rotary members, Rotary women accounted for a disproportionate 26% of Rotary volunteer hours, suggesting that women were either more likely to volunteer than men or volunteered more hours, or some combination of these two.
FINDING 6
Age and Rotary volunteering

Rotary members aged 56 and up account for over half (53%) of Rotary-organized volunteering, roughly proportional to their share of Rotary members, while those aged 25–55, while accounting for nearly a third of this volunteer activity, lag slightly behind what their share of members would suggest.

The youngest members of Rotary, those from 15–24 years of age, make up a much smaller share of Rotary’s membership and volunteer hours—but this may reflect the fact that these younger participants generally enter the Rotary ranks through its affiliated organizations, Interact and Rotaract, which were not covered by this research.
Survey respondents reported up to nine different volunteer activities. Half of all Rotary-organized volunteer time is devoted to health, education, and social assistance (e.g., child, elder, or disability care, soup kitchens, refugee support services), with culture and arts a close fourth. The remaining hours were split among other categories of activity, including economic and community development, environment, international cooperation, emergency response, advocacy, and a broad “other” category.

During the reference period for this survey, World Polio Day activities took its place among those noted here, boosting the overall level of volunteering, but reducing the share of hours accounted by for these other activities. World Polio Day activities accounted for nearly 10% of Rotary-organized volunteer hours during this 4-week period. These data are not included in the figure.
Rotary members performed a variety of different jobs in their volunteer work. By far the largest proportion of hours (49%) was devoted to manager, organizer, or coordinator functions.

The second largest proportion of hours (33%) went into manual labor activities—including cooking, serving food, cleaning, construction, operating vehicles, typing, making phone calls, and distributing information. Another 14% of the hours went into professional or technical activities, such as legal, medical, accounting, and fundraising services.
FINDING 9

Rotary is succeeding in initiating its new members into its service expectations

Not surprisingly, long-time Rotary members (those who have been members for 6 years or more) account for nearly two-thirds of Rotary-organized volunteer work, roughly proportional to their share of members.

Significantly, however, those who have been members of Rotary for 3–5 years account for 20% of volunteer hours, exceeding their 17% of membership.
The population of Rotary members varies significantly by region, with most of the members in Asia (32%), the US & Canada (29%), and Europe (25%).

Average hours of volunteering per volunteer also varied by region, but often not in proportion to the share of members. Thus, the average hours of volunteering per volunteer per month was higher in Latin America (6.4 hours) and Africa and the Middle East (6.2 hours) than in the U.S. and Canada (3.7 hours) and Europe and the U.K. (4.7 hours).

Reflecting these disparities, some regions, such as the U.S. and Canada, accounted for lower shares of volunteer hours than their share of Rotary members might have suggested, while other regions, such as Asia—embracing Southeast Asia, India, Korea, and Japan—accounted for higher shares of volunteer hours than their share of volunteer members might have suggested, as reflected in the map on the next page.
SHARE OF ROTARY MEMBERS vs. SHARE OF VOLUNTEER HOURS BY REGION

U.S. & CANADA
29% 22%

EUROPE & UK
25% 25%

LATIN AMERICA
8% 10%

AFRICA & MIDDLE EAST
3% 4%

ASIA
32% 35%

AUSTRALIA & NEW ZEALAND
3% 4%
CONCLUSION

This report provides the first systematic empirical analysis of the extent of volunteer activity generated by a major global service organization using an internationally sanctioned definition of volunteer work and widely recommended statistical sampling and weighting methods. To be sure, complicated estimating procedures had to be deployed to deal with the survey’s relatively low response rate and the wide variations in the scale of Rotary membership among regions. At each turn, the analysis took the most conservative of the reasonable paths available to generate these estimates. Despite these complexities, therefore, readers can be confident that the results reported here are a reasonable approximation of the scale and character of the volunteer effort generated by Rotary and that they err, if at all, on the low side of the actual amounts.

This makes the results reported here all the more remarkable, however. With a staff of 563 employees, Rotary International has mobilized a volunteer workforce that translates into the equivalent of 26,500 full-time workers. Translated into economic terms, Rotary is annually generating a scale of social and economic problem-solving effort that is worth nearly nine times more than it costs the organization to produce. Here is a powerful demonstration of the enormous leveraging possibilities available from mobilizing the unique renewable resource represented by volunteer work.

For a world challenged to meet a demanding set of Sustainable Development Goals (SDGs) in the face of withering environmental catastrophes and limited governmental and philanthropic resources, the lesson is clear: volunteer service is not only a feel-good calling—it may provide one of the more promising, and one of the more fulfilling—avenues through which to achieve the ambitious goals that the international community has set for itself. By putting itself through the demanding inquiry described here, Rotary may thus have done a special service by opening this avenue for all to see. If so, this work will have more than met its objectives.
**KEY CONCEPTS**

**Definition of Volunteering.** For the purpose of this project, volunteer work was defined in terms consistent with those provided by the International Labor Organization in its *Manual on the Measurement of Volunteer Work* and ratified by the 19th International Conference of Labor Statistics as activities that meet the following criteria:

- They are carried out by people who are aged 15 and above;
- They are carried out for at least one hour;
- They produce a good or a service “for others,” i.e., for persons or entities that are not part of the volunteer’s household or immediate family;
- They are “unpaid,” which means the absence of remuneration in cash or in kind. The reimbursement of expenses or provision of ceremonial gifts is not considered remuneration; and
- They are “non-compulsory,” which means they are not required by law or administrative requirement. Volunteering may fulfill certain social responsibilities and expectations of Rotary membership, but this is not considered compulsory because people become members of Rotary voluntarily.

A final feature was added in view of the specific focus of this report on Rotary-organized volunteering. This required that the activities reported:

- Be carried out in the context of a Rotary-organized or Rotary-directed project. Volunteers may have engaged in the volunteer work alone, but they must have done so in the context of a larger Rotary-organized effort.

**Application of the definition.** The survey used the language below to introduce the concept:

**Rotary/Hopkins Survey Instructions**

Although there are many kinds of Rotary service, this survey is focused on volunteer work organized through Rotary. By volunteer work, we mean tasks you performed for **at least 1 hour without pay** for the benefit of **persons outside your family** and that was **organized by Rotary**.

Do not include any volunteer work that you performed on your own or with a group independent of Rotary. Do not include ordinary participation in Rotary meetings or other events.

**Examples of activities to include:**
- Participating for 5 hours in a Rotary-organized community clean-up project
- Taking part for 1 hour a week over the last 4 weeks in an effort by your Rotary club to raise money for a local community organization (this would count as 4 separate activities since they took place on separate days)

**Examples of activities NOT to include:**
- Attending a Rotary club meeting
- Assisting for 20 minutes in a Rotary-sponsored health screening in a local community (because it was less than one hour).

**SAMPLE DESIGN**

Rotary Club members mobilized in service through Rotary in all 14 Rotary “regions” were included in the scope of the study. This imposed significant challenges on the sample design because of the heavily skewed nature of Rotary membership among the regions of the world. Thus, as noted in **Appendix Table 1**, over half of Rotary’s membership falls into two major regions—North America (30%) and Europe (22%). By contrast, the combined regions of Africa and the Middle East contain only about 3% of the members. Essentially, two options were therefore open to us: first, to choose a sampling strategy sufficient to represent the aggregate picture of Rotary volunteering at the global level; or second, to choose a sampling strategy sufficient to support valid observations at the regional levels as well. The first would permit a less ambitious target number of respondents, but would leave us too few respondents in the regions with the smaller number of members to support valid inferences about these regions. The second would permit valid inferences about Rotary member volunteering in each region, but require ambitiously large numbers of respondents and heavy reliance on “weighting factors” to produce the aggregate results given that each respondent in the regions with the large numbers of Rotary members would represent a larger number of members.

Ultimately, because Rotary was interested in regional differences and not only aggregate totals, we opted for the second option with two modifications: first, we merged the 14 Rotary regions...
Appendix: Key Concepts & Methodology

into 10 by combining nearby or similar regions for sampling and reporting purposes; and second, we used larger samples in the regions with many members to reduce the amount of weighting that would be needed to go from the sample to the aggregate universe.

Operationally, this meant going after at least 900 respondents per region, and twice that number in the two regions with disproportionately large numbers of Rotary members. As reflected in the table below, this led to a target population of 11,700 respondents, assuming a survey response rate of roughly 50% of the targeted members.

SURVEY DESIGN

In addition to the clarification of the definition of volunteering, the design of the survey instrument required attention to a number of crucial issues. Chief among these were the following:

- **The Unit of Analysis.** Respondents were asked to record each Rotary-organized “volunteer engagement” (aka, episode) in which they took part in the four weeks prior to completion of the survey. This was done to gauge the exact activities that volunteers who performed more than one volunteering episode might have engaged in and the fields in which these activities took place. This information was necessary for the assessment of the economic value of the volunteer activity and the hours contributed to different fields.

- **Variables collected or computed.** In order to assess the economic value and scale of Rotary-organized volunteering, the survey instrument collected data on a number of different variables. In each case an effort was made to utilize internationally accepted classification structures to facilitate international comparisons. In particular, data were assembled on:
  - The number of volunteers.
  - The socio-economic character of the volunteer (sex, age, and tenure as a Rotary member).\(^2\)
  - The amount of volunteer work mobilized, measured by the number of hours per volunteer engagement.
  - The field of activity for each volunteer engagement. The International Classification of Nonprofit Organizations (ICNPO) was the core basis for recording fields of activity, but some adaptations were incorporated to identify special circumstances, such as the identification of volunteer activities carried out during “World Polio Day,” which happened to fall within the 4-week reference period of the survey.
  - The occupational function, or kind of work, performed by the volunteers for each volunteer engagement. A highly condensed version of the International Standard Classification of Occupations (ISCO-08) was used for this purpose.
  - Importance of Rotary’s focus on service to decision to become a member. This question was asked early in the survey and was used primarily to “warm-up” respondents to the questionnaire and orient them to the topic of the survey.
  - Country of residence. This variable was used to ensure that sufficient numbers of responses from the target regions were collected.

\(^2\) Note: Some survey respondents chose not to report their gender or age. The results reported in Finding 5 might have been different had they done so. For both gender and age, those who did not report accounted for 11% of members and 16% of total volunteer hours.

### Appendix Table 1 • Distribution of Rotary members and target survey responses, by Rotary region

<table>
<thead>
<tr>
<th>REGION</th>
<th>Total Rotary membership</th>
<th>Number of members in clubs contacted for the survey</th>
<th>Target number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa &amp; Middle East</td>
<td>37,459</td>
<td>2,250</td>
<td>900</td>
</tr>
<tr>
<td>Australia, New Zealand, &amp; Pacific Islands</td>
<td>36,375</td>
<td>1,800</td>
<td>900</td>
</tr>
<tr>
<td>Central &amp; Southeast Asia</td>
<td>93,304</td>
<td>2,250</td>
<td>900</td>
</tr>
<tr>
<td>Europe</td>
<td>257,168</td>
<td>3,600</td>
<td>1,800</td>
</tr>
<tr>
<td>India</td>
<td>136,137</td>
<td>2,250</td>
<td>900</td>
</tr>
<tr>
<td>Japan</td>
<td>87,351</td>
<td>1,800</td>
<td>900</td>
</tr>
<tr>
<td>Korea</td>
<td>59,334</td>
<td>1,800</td>
<td>900</td>
</tr>
<tr>
<td>Latin America</td>
<td>91,920</td>
<td>2,250</td>
<td>900</td>
</tr>
<tr>
<td>Great Britain &amp; Ireland</td>
<td>46,215</td>
<td>2,250</td>
<td>900</td>
</tr>
<tr>
<td>USA, Canada, &amp; the Caribbean</td>
<td>348,516</td>
<td>3,600</td>
<td>1,800</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,193,779</strong></td>
<td><strong>23,850</strong></td>
<td><strong>10,800</strong></td>
</tr>
</tbody>
</table>
Appendix: Key Concepts & Methodology

**DATA COLLECTION METHOD**

A number of both practical and conceptual issues also had to be taken into consideration in designing the data collection method. Principal among these were the following:

- **Local management of the survey process.** Because this survey had to be administered simultaneously in a wide assortment of locations across the world without a full team of interviewers, it was necessary to make use of the existing Rotary chapter structure to administer the survey. Accordingly, the survey process had to depend heavily on the involvement of individual club leaders. In particular, after the survey form was translated into each of the official Rotary languages, it was distributed to club leaders in both paper and electronic versions, the latter formatted for web/mobile devices. Club leaders were asked to forward the survey link to their members and to urge them to complete the online survey on their own or during a club meeting. In cases where paper versions were used, club leaders were asked to scan the survey responses and send them back to Rotary. Club leaders received an email invitation from Rotary International's president and subsequent reminders from Rotary International staff to urge them to encourage their members to participate.

- **Selection of clubs.** To simplify the process, only a subset of all clubs in each region were tasked with this crucial management function. The

**- Name of Rotary Club.** Club-level participation data allowed the researchers to gauge the number of responses returned per club and provided a sense of the potential for non-response bias. The original survey design did not intend to ask for this information because it was assumed this could be captured automatically by the survey software. However, this assumption proved incorrect, and this question was later added to the survey instrument for respondents to answer manually. However, this method of data entry yielded inconsistent and unreliable results as different versions of a club name were entered, (e.g. “Rotary Club of Wexford” and “RC of Wexford”), local spelling was used by non-English speakers, and often no information was entered. This made it difficult to clean and standardize the data and produce a complete picture of survey response rates at the club level. Consequently, participation rates among clubs were not produced for this report.

In addition to the collected variables, two important other variables were computed from the collected information. This included:

- **Total number of volunteer hours.** This variable was computed by summing the amount of volunteer hours per engagement for each respondent. Those who did not report any volunteering activities were recorded as having volunteered zero hours. The total number of volunteer hours ranged from 0 to 135 hours during the 4-week reference period, with the majority (95%) of the respondents reporting values between 0 and 28 hours. We therefore treated the 5% of respondents reporting more than 28 hours as “outliers” and assigned them the value reported by respondents at the 95th percentile (i.e., 28 hours during the 4-week reference period), a technique known as “winsorization,” or top-coding. The main advantages of this technique are: (i) it uses a top value that has been empirically determined from the sample rather than being arbitrarily decided; and (ii) it does not discard the responses that exceed the maximum value, i.e. it does not reduce the effective sample size.

- **The economic value of volunteer work.** This variable was derived from other variables collected through the survey using a “replacement cost approach.” This approach calculates what it would have cost to hire someone to do the work that the volunteer performs for free. It thus requires that the number of hours that volunteers contribute in each occupational function be multiplied by the average wages paid for those functions in the respective regions.

Since detailed wage data were not available on all countries, however, we took the more conservative approach of using average wage rates for selected countries in each region, based on the availability of this information from the International Labor Organization. These country wage rates were then averaged by region and converted to dollars based on “purchasing power parity,” which converts actual prices in particular countries to the quantity of a standard bundle of products they can buy.

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1 English, Chinese, French, German, Italian, Japanese, Korean, Portuguese, and Spanish.
The method for selecting the clubs to target took the form of random selection of clubs from a list of clubs supplied by Rotary International for each region until the target number of respondents planned for each region, plus a suitable buffer for selected clubs that refused to participate, had been reached.

**Minimizing non-response bias.** A critical problem that can frequently cause distortions in surveys of this sort involves non-response bias. Non-response bias arises if non-respondents tend to be non-volunteers who choose not to participate in a survey either because they have nothing to report and are reluctant to acknowledge this, or because they simply do not like to be bothered by surveys. This can result in an over-representation of volunteering, since the sample that responds is made up disproportionately of volunteers. This can lead to grossly exaggerated estimates of volunteering if the share of non-respondents in the sample is large. To minimize the non-response bias, this survey sought to capture actual responses from both those who volunteered and those who did not. Club leaders were therefore instructed to distribute survey forms to all club members and to make efforts to ensure that all members of their clubs responded. As noted below, steps were also taken to mitigate the effects of non-response bias in blowing up the sample data to the entire population of Rotary members.

**Minimizing recall bias.** Another concern that had to be addressed was the respondents’ ability to accurately recall all their types and duration of volunteering activities. Inaccurate recall is likely to happen if respondents are asked to report on activities that happened too long before the date of the survey to be recalled accurately. Since volunteering is not as salient a phenomenon as work, the survey used a relatively short (4 week) reference period to minimize this recall problem, as recommend by the ILO.

**Avoiding over-reporting.** Also of concern was the possibility that club members may be motivated to over-report their volunteer work activities or take steps to boost their levels of activity in preparation for the survey if they believed that their levels of volunteer work would affect the perception of their clubs when compared to other clubs in the region or the world. To reduce this possibility, several additional steps were taken:

- In the letters sent to club leaders from the President of Rotary International informing them that their clubs had been selected to participate in a survey and asking them to confirm their willingness to participate in the study the club leaders were not told exactly when the survey would be launched or precisely that it would cover volunteer work activities. Rather, the letter referred generally to a study on Rotary service activities.
- In addition, the initial invitation letter stated that responses would not have any consequences, positive or negative, for club leaders with Rotary International.
- Although the researchers intended to monitor club responses to make sure that club leaders were not intentionally or unintentionally screening out responses from non-volunteers or those volunteering only a limited amount during the target reference period, the survey software used for this survey did not make this possible, so it is unknown if this factor impacted the results.

**BLOWING UP SAMPLE RESULTS TO THE FULL POPULATION**

As it turned out, as noted in Appendix Table 2 below, only a total of 2,176 total responses to this survey were received, well below the 11,700 targeted.

**Possible explanations for low response rate.** This lower than expected response rate may have been influenced by a number of factors, including the following:

- **The unfortunate coincidence of a fake message that appeared to have been sent by Rotary’s president** appearing in the emails of Rotary club leaders shortly before the actual message conveying the volunteering survey arrived, creating some confusion when the real letter arrived;

- **The fact that the distribution of the survey coincided with the implementation of new spam prevention laws in Europe**, which led some Rotary club leaders in the region to reject the request as spam and made Rotary hesitant to send reminder emails encouraging them to ask their members to respond;

- **Language barriers** that may have limited responses in some regions even though the survey and request from Rotary’s president were translated into official Rotary languages;

- **Limitations in the level of cooperation from club leaders in managing the survey locally.** Possible reasons include language barriers,
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lack of availability of technology to distribute and monitor responses to the survey, and simple lack of time and resources; and

– **Non-response bias** that may have persisted despite efforts to minimize it.

**Strategies for compiling and reporting results despite the low response rate.** Several conclusions emerged from the data reported in Appendix Table 2 below about how we needed to proceed to gain the maximum valid information from this survey despite the somewhat disappointing response rate. In particular:

– **Further grouping of regions.** Interestingly, some of the regions with the smallest numbers of Rotary members had the largest number of respondents (e.g., Africa & Middle East, and Australia, New Zealand, and the Pacific Islands). At the same time, several of the regions had too few responses to support meaningful inferences about even the extent of Rotary volunteering they represented. In order to permit us to report at least aggregate levels of volunteering at the regional level, we therefore combined several Rotary regions in reporting our results. Specifically, we combined Central and Southeast Asia, India, Japan, and Korea into a single Asia region; and Great Britain, Ireland and Europe into a single “Europe” region, giving us six regions to report on.

– **Handling the coverage of “World Polio Day.”** Due to the timing of the volunteering survey, the reference period for survey responses embraced the special Rotary volunteer push associated with what Rotary promotes as “World Polio Day.” This posed the possibility that Rotary volunteering would be artificially inflated if we included a period with volunteering figures that included World Polio Day figures as representative of the typical level of Rotary volunteering. In fact, 29% of survey respondents indicated that they volunteered less during the reference period than in other times, 35% reported volunteering about the same amount, 23% provided no indication at all, and only 14% reported volunteering more. Since there was no way of knowing whether World Polio Day activities added more time to the amount Rotary members normally volunteer, or whether members redirected some of their normal volunteer effort to World Polio Day activities without adding any extra time, we took the conservative approach of including World Polio Day volunteering in the aggregate annual amount of Rotary-organized volunteering only for the month in which it occurred but did not carry it over into all other months.

– **Dealing with the non-response bias.** Because of the relatively low response rate and the consequent large number of non-respondents, it became especially important to determine what impact this might have had on the results. Two equally plausible explanations were possible for this sizable non-response: first, that the surveys simply did not reach the non-respondents for any of a number of possible reasons (e.g., the club leaders did not forward the survey to them, the members were unavailable, the members did not have time or did not understand the need for the data); or second, that significant numbers of the non-respondents were actually non-volunteers who for one reason or another did not want to report their lack of volunteer participation during the target reference period for fear it might be embarrassing in the context of

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### Appendix Table 2 • Survey responses compared to targets, by region

<table>
<thead>
<tr>
<th>REGION</th>
<th>Number of members in clubs contacted for the survey</th>
<th>Target number of respondents</th>
<th>Number of completed surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa &amp; Middle East</td>
<td>2,250</td>
<td>900</td>
<td>322</td>
</tr>
<tr>
<td>Australia, New Zealand, &amp; Pacific Islands</td>
<td>1,800</td>
<td>900</td>
<td>349</td>
</tr>
<tr>
<td>Central &amp; Southeast Asia</td>
<td>2,250</td>
<td>900</td>
<td>134</td>
</tr>
<tr>
<td>Europe</td>
<td>3,600</td>
<td>1,800</td>
<td>271</td>
</tr>
<tr>
<td>India</td>
<td>2,250</td>
<td>900</td>
<td>79</td>
</tr>
<tr>
<td>Japan</td>
<td>1,800</td>
<td>900</td>
<td>104</td>
</tr>
<tr>
<td>Korea</td>
<td>1,800</td>
<td>900</td>
<td>62</td>
</tr>
<tr>
<td>Latin America</td>
<td>2,250</td>
<td>900</td>
<td>184</td>
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<tr>
<td>Great Britain &amp; Ireland</td>
<td>2,250</td>
<td>900</td>
<td>205</td>
</tr>
<tr>
<td>USA, Canada, &amp; the Caribbean</td>
<td>3,600</td>
<td>1,800</td>
<td>466</td>
</tr>
<tr>
<td><strong>MISSING</strong>*</td>
<td></td>
<td></td>
<td><strong>25</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>23,850</strong></td>
<td><strong>10,800</strong></td>
<td><strong>2,200</strong></td>
</tr>
</tbody>
</table>

* Responses for which it was impossible to determine the region of origin.
their membership in a service organization that promotes volunteering. The first possibility would simply increase the range of statistical error without biasing the results, but the second possibility would also bias the results, leading to significant over-reporting of volunteering activities since the volunteers would make up a disproportionately large share of the respondents.

One clue about what might be going on with the non-respondents was evident in the data available from those who did respond to the survey. Our preliminary analysis of the sample of actual respondents showed that 69% of them were volunteers. This value is significantly higher than that reported in general surveys of volunteering and could indicate that Rotary members volunteer at higher rates than the general population and that the non-volunteer rate among non-respondents in this population might be lower than that in the general population. This suggested that treating the non-respondents as non-volunteers might not be appropriate for this population and that some middle-ground estimate might be more appropriate. In particular, our analysis focused on estimating possible non-response bias by using information from reliable volunteering surveys of other populations and setting the volunteering rate of non-respondents among non-respondents in this population might be lower than that in the general population.

Since we believed, in the absence of more reliable information, that the actual volunteering rate of Rotary members lies somewhere between the average estimated from these 13 general surveys and that obtained from respondents to our survey, we made an educated guess that this value is best represented by the midpoint between the average obtained from these 13 surveys (36.5%) and the average rate obtained from respondents to the Rotary survey (68.8%), giving us an estimated volunteering rate for Rotary members of 52.6%. To account for regional variations in volunteering rates reported in our survey, we averaged this midpoint value and the survey rates for each region separately to estimate actual regional volunteering rates for the Rotary population. The results of these calculations are noted in Appendix Table 3 below. These estimates were then used to compute estimates of the numbers of volunteers and non-volunteers in the Rotary population in each region as Table 3 also shows.

**Weighting the results.** Because of the skewed distribution of Rotary membership among regions as well as the variations in the potential non-response bias among the regions, it was necessary to weight the

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### Appendix Table 3 • Estimating Rotary volunteers and non-volunteers by region

<table>
<thead>
<tr>
<th>REGION</th>
<th>SURVEY RESPONDENTS</th>
<th>ACTUAL</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Volunteers</td>
<td>Volunteer rate*</td>
</tr>
<tr>
<td>Africa &amp; Middle East</td>
<td>322</td>
<td>259</td>
<td>80.4%</td>
</tr>
<tr>
<td>Australia &amp; NZ</td>
<td>349</td>
<td>265</td>
<td>75.9%</td>
</tr>
<tr>
<td>Europe &amp; UK</td>
<td>476</td>
<td>300</td>
<td>63.0%</td>
</tr>
<tr>
<td>USA &amp; Canada</td>
<td>466</td>
<td>284</td>
<td>60.9%</td>
</tr>
<tr>
<td>Latin America</td>
<td>184</td>
<td>150</td>
<td>81.5%</td>
</tr>
<tr>
<td>Asia</td>
<td>379</td>
<td>239</td>
<td>63.1%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2176</strong></td>
<td><strong>1497</strong></td>
<td><strong>68.8%</strong></td>
</tr>
</tbody>
</table>

*Figures shown may be slightly off due to rounding.
**Average between average volunteer rates in RI survey and other surveys

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4 Australia, Austria, Canada, Denmark, Germany, Ireland, Italy, Japan, Mexico, New Zealand, South Africa, UK, and U.S.
Appendix: Key Concepts & Methodology

survey results to achieve an accurate picture of the aggregate level of Rotary volunteering as well as a picture of at least the overall level of volunteering by region. Such weighting is standard practice in survey research.

To calculate these weights, we divided the estimated number of volunteers in each region by that region’s number of volunteering respondents. Thus, for example, the weighting factor for responding volunteers in Europe was 584.71 (175,461/300), as shown in Appendix Table 4 below. A similar calculation was undertaken for the non-respondents. These weights were then applied to the various variables in the survey results to compute the final results. For example, if one Rotary member from Europe volunteered for 5 hours, it would account in the aggregate for 2,744 hours of volunteer time in the final results (5 x 584.87). And for each European survey respondent that reported that they did not volunteer, it counted as 726.83 European Rotary members who did not volunteer.

Taken together, these adjustments allowed us to take account, in a generally conservative way, of the higher general volunteering rates of Rotary members and the uneven size of the Rotary populations among regions.

<table>
<thead>
<tr>
<th>REGION</th>
<th>VOLUNTEERS</th>
<th>NON-VOLUNTEERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa &amp; Middle East</td>
<td>96</td>
<td>199</td>
</tr>
<tr>
<td>Australia, New Zealand, &amp; Pacific Islands</td>
<td>88</td>
<td>155</td>
</tr>
<tr>
<td>Europe &amp; UK</td>
<td>585</td>
<td>727</td>
</tr>
<tr>
<td>USA, Canada, &amp; the Caribbean</td>
<td>697</td>
<td>827</td>
</tr>
<tr>
<td>Latin America</td>
<td>411</td>
<td>890</td>
</tr>
<tr>
<td>Asia</td>
<td>910</td>
<td>1,132</td>
</tr>
</tbody>
</table>
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