Impact evaluation of the **ACCELERATED SCHOOL READINESS PILOT PROGRAMME** in Mozambique

SUMMARY REPORT

JUNE 2020

Ministério da Educação e Desenvolvimento Humano

AIR® American Institutes for Research®

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June 2020

The evaluation of the Accelerated School Readiness Programme commissioned by UNICEF Mozambique's country office is conducted by American Institutes for Research (AIR). The Accelerated School Readiness Pilot Programme was developed in partnership with Mozambique Ministry of Education and Human Development, and Save the Children International (SCI).

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EVALUATION SUMMARY

Despite a twofold increase in primary school enrolment in Mozambique over the past 15 years, educational outcomes remain largely disappointing (Martinez, Naudeau, & Pereira, 2012). In 2014, the cumulative primary school dropout rate in Mozambique reached almost 68%, and only 6% of students achieved basic reading competency by the third grade (UNU-WIDER, 2018; UNICEF, 2016a).

In Zambézia, there are insufficiencies in both the quantity and quality of educational institutions, especially for pre-primary students. To respond to these challenges, UNICEF Mozambique and Save the Children (STC), in partnership with the Mozambican MINEDH, implemented an accelerated school readiness (ASR) pilot programme from 2016 to 2019 (Preparando-se para a entrada na escola!) in Zambézia province for children aged 5 to 6.

The programme aims to improve readiness in three ways; it seeks to:

- Improve children's readiness for school by developing skills and competencies necessary to succeed in Grade 1,
- Improve school's readiness for children by building the capacity of school management and educators in school readiness methodology, and
- Improve families' readiness for school by building knowledge of and awareness about the importance of a positive home learning environment on children's school readiness, as well as the importance of parental engagement with the education system for schools' readiness and accountability.

To achieve this, the programme has the following three primary activities: (a) Providing a 120-hour summer school readiness programme; (b) Strengthening school councils and locally-based education professionals; and (c) Providing 12 weeks of parent-to-parent education sessions.

AIR conducted a mixed-methods impact evaluation of the ASR programme with three primary objectives:

- Determine the extent to which provision of the ASR pilot programme improved children's school readiness, on-time enrolment, and academic achievement in Grade 1 relative to comparable children in communities with no pre-primary education;
- Calculate the community- and child-level costs of providing the ASR pilot programme;
- Identify which aspects of community context and implementation seemed to facilitate or inhibit the success of the ASR pilot programme.

To achieve these objectives, we developed the following evaluations questions agreed upon with UNICEF during the Inception Phase (see Annex I for the Inception Report):

1. To what extent does provision of the ASR pilot programme improve children's school readiness relative to that of comparable children in communities with no pre-primary education?
2. To what extent does provision of the ASR pilot programme improve children's on-time enrolment in Grade 1 relative to that of comparable children in communities with no pre-primary education?
3. To what extent does provision of the ASR pilot programme improve children's academic achievement and teachers' perceptions of their performance at the end of Grade 1 relative to comparable children's achievement and teachers' perceptions in communities with no pre-primary education?
4. What are the community- and child-level costs of providing the ASR pilot programme?
5. Which aspects of community context and implementation facilitate or inhibit the success of the ASR pilot programme?
   a. To what extent are programme topics and implementation methods relevant and responsive to the implementation context?
   b. To what extent was the programme implemented with fidelity?

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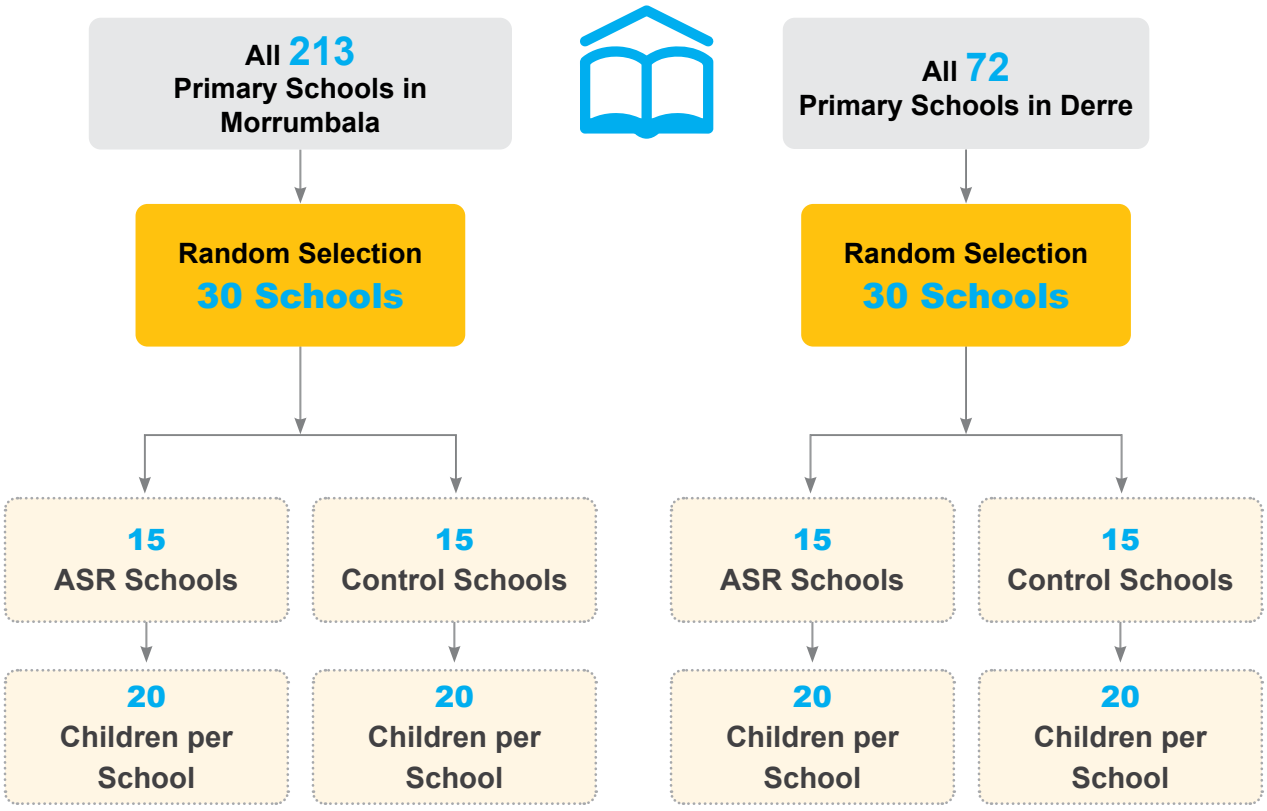
METHODS

To measure the impacts of the ASR pilot programme, we designed a longitudinal, cluster randomized, controlled evaluation with repeated outcome measurers for children and caregivers. To create the evaluation and programme sample, we identified 213 primary schools in Morrumbala and 72 in Derre from the MINEDH list of operating schools. The identified schools did not have any formal pre-primary or school readiness programming options and were willing to implement the ASR pilot programme if selected. The 60 schools for the evaluation were randomly selected in a public event led by UNICEF and STC in September 2017 in Morrumbala. We applied a difference-in-differences (DD) strategy to estimate programme effects from the experimental data. DD compares the average change over time for the group receiving the ASR programme to the average change over time for the comparison group that received no intervention.

To measure children's' school readiness outcomes, we used the International Development and Early Learning Assessment (IDELA) developed by STC. We collected the IDELA assessments at three points in time: baseline (November 2017), midline (March 2018), and endline (November 2018). To measure caregiver outcomes, we administered a questionnaire to measure caregivers' attitudes, educational aspirations for their children, and parenting practices administered at baseline and midline.[1] Finally, to measure impacts on schools' readiness, we reviewed school records for the selected students and recorded their first-grade enrolment. To complement quantitative impact findings, we conducted qualitative data collection in midline and endline. At midline, we interviewed volunteer leaders, school professionals, STC staff, and caregivers of participating children and their caregivers. At endline, we interviewed Grade 1 teachers and staff from STC and UNICEF.

FIGURE 1. **Evaluation Sampling**



Final Sample: **60** Villages **1,200** Children

Collected 3 rounds of data: **Baseline, midline, endline**

[1] Impacts of the parental and school readiness components can be found in the endline report.

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QUANTITATIVE FINDINGS

Child-Level Component

We found a highly significant impact on the overall school readiness of children, as measured by the IDELA assessment in all child domains (i.e., emergent numeracy, emergent literacy, executive function, motor skills, and approaches to learning) except for the socio-emotional domain. The ASR pilot programme increased the total IDELA score for children in treatment schools by 9 points (0.52 standard deviations [SD]) and increased for students in treatment schools who actually attended the programme by 17 points (0.93 SD). Overall scores were driven by the impacts on specific sub-constructs: emergent numeracy (intent-to-treat (ITT): 12 points = 0.55 SD; local average treatment effect (LATE): 0.98 SD), emergent literacy (ITT: 8 points = 0.39 SD; LATE: 0.70 SD), and motor skills (ITT: 10 points = 0.44 SD; LATE: 0.78 SD). Even though we found statistically significant differences in favour of the

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Emergent numeracy
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Motor skills
(ITT: 10 points = 0.44 SD;
LATE: 0.78 SD)

FIGURE 2. **Programme Impacts at the Student-level – IDELA Results**

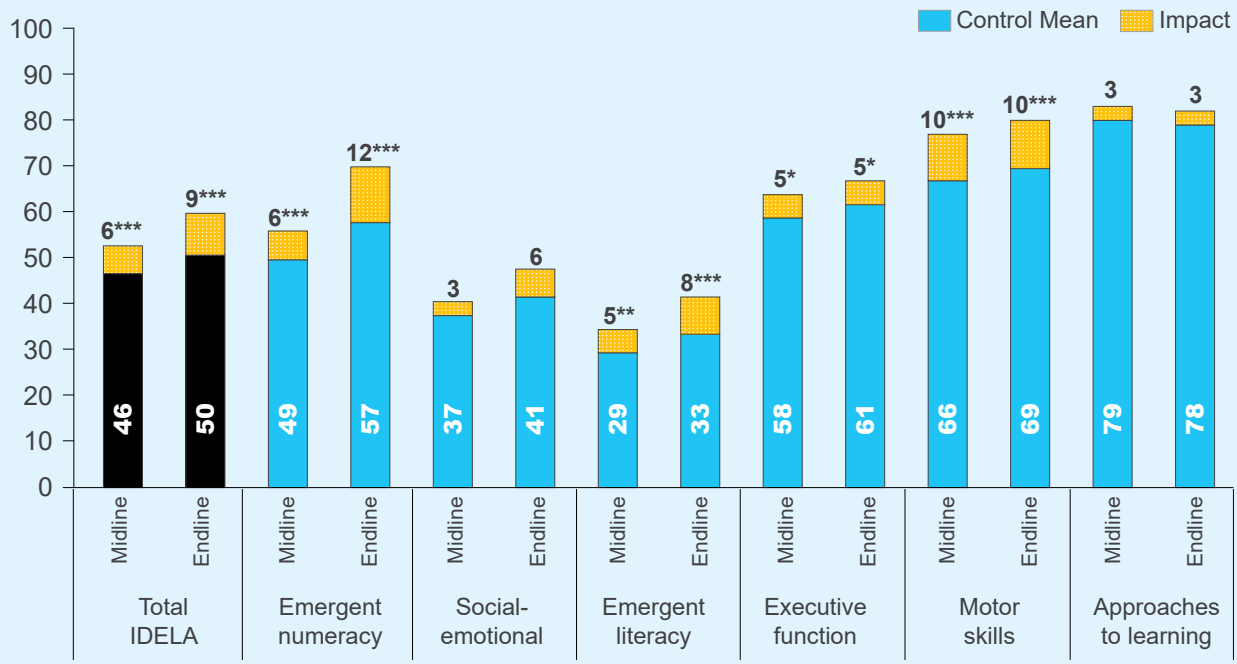
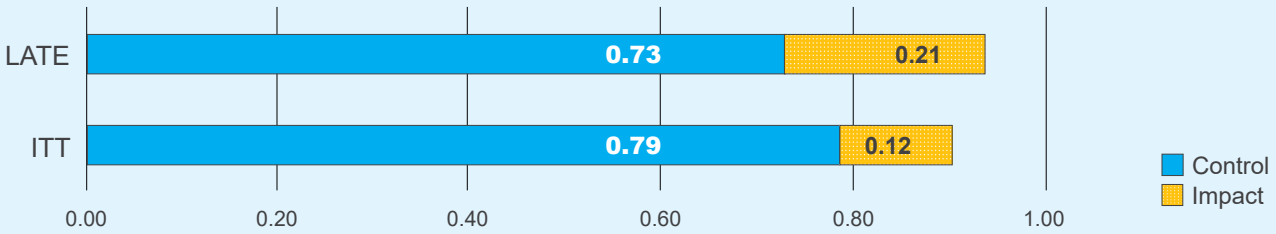


FIGURE 3. **Programme Impacts on School Attendance**



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control group for both emergent literacy and motor skills at baseline, our impact estimates reveal that children in the treatment group were able to catch up and in fact overtake their control group peers with regard to these skills as a result of the programme. This is a trend we first identified in midline, and we are able to confirm that these effects persist at the end of first grade, 9 months after the end of the programme. It is worth noting that the control group has also improved since baseline, but the gap in favour of the treatment group remains.

We also found the ITT effect to be a 12 percentage-point increase in primary school attendance over the control group, and the LATE to be 21% increase. These results support the hypothesis that ASR programmes can increase the likelihood that children will actually enrol in primary school. In terms of heterogeneity in programme results, although we did not find differences in achievement between girls and boys, we did find a positive differential impact on girls' primary school attendance as a result of the programme.

The ITT effect to be a **12 percentage-point increase** in **primary school attendance** over the control group, and the **LATE to be 21% increase.**

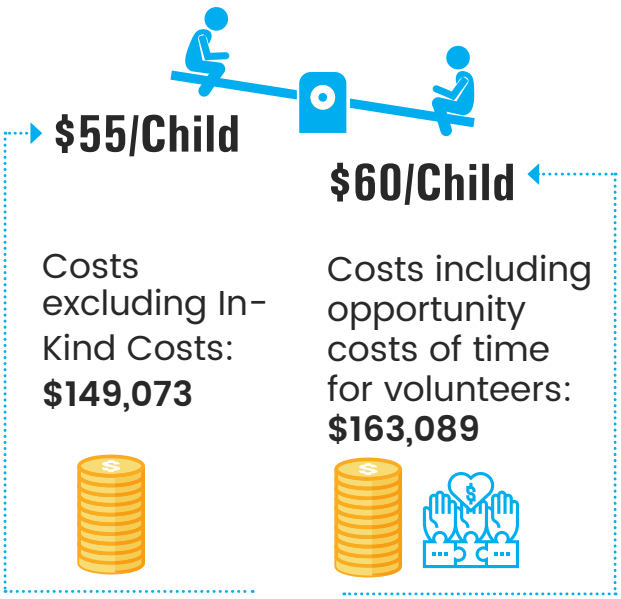
Cost Analysis

We conducted a cost analysis to capture the resources needed to implement the ASR intervention so that policy makers in Mozambique and other stakeholders have a complete understanding of the cost-effectiveness of this intervention. To that end, we have used the ingredients approach and produced estimates of the cost of the individual programme by ingredient type and activity, as well as comparing start-up and recurring costs on an overall and per-child basis. Our approach allows us to consider the time that different staff spent on the programme, the opportunity cost of the volunteers who supported the implementation of the programme, and all of the physical materials and facilities used throughout the entire process.

We found that the cost of scaling up the ASR programme under similar circumstances by the government of Mozambique will be approximately USD $60 per-child to implement the entire ASR intervention, which includes not just the instruction involved in the ASR component for children, but also the capacity building for teachers and the parental programme. The total value per child includes the opportunity cost of volunteers' work, but excludes most of indirect costs associated to implementing a programme by an international organization. The total cost per child could be reduced to if some ASR programme activities are implemented through other regular government programmes. In particular, if the activities associated to the school capacity building components are not included as part of the ASR programme and delivered through other regular interactions with primary schools and communities, then the total cost of implementing the programme would be USD$39 per child.

The estimated cost per child is much lower to similar programmes conducted in Sub-Saharan Africa. For example, a recent early childhood education study in Malawi (Ozler et al. 2018), similar to ASR, had an average cost per child of USD $93 with no long-term impacts on children achievement. We also conducted a cost-effectiveness analysis, defined as the ratio of the cost per child over estimated programme impacts. Our estimates showed that it would cost USD $6.5 to increase the average IDELA score by 0.1 SD. Although it is not simple to compare this cost-effectiveness ration to the one reported in other programmes due to lack of comparability in the costs used for the analysis, the type of programmes, or the lack of statistically significant results of the interventions as is the case of Ozler et al. 2018, the average cost of increasing the total IDELA score by 0.1 SD is also much lower than cost effectiveness ratios found in the literature for similar preschool programmes (Donfouet et al, 2018) in Sub-Saharan Africa.

Total Cost of the ASR Programme in USD (*all costs in 2017 USD)



The **cost of scaling up the ASR programme** under similar circumstances by the government of Mozambique will be approximately **USD $60 per-child** to implement the entire ASR intervention, which includes not just the instruction involved in the ASR component for children, but also the capacity building for teachers and the parental programme.

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QUALITATIVE FINDINGS

Our qualitative findings are organized into three key thematic areas: the implementation context, parent-to-parent education sessions, and the child-level component:

Implementation Context

Prior to the introduction of the ASR programme, most children were not academically prepared to enter Grade 1 and a minority of parents supported school readiness. Nearly all Grade 1 teachers reported that students over the past 3 years (excluding the current school year) were not fully prepared to enter Grade 1 in terms of their academic abilities. Teachers noted gaps in school readiness such as limited ability to speak or understand Portuguese, inability to hold a pencil, and limited reading and writing abilities. Most parents stated that they either provided no support or provided a low level of support to their children, without any specific efforts to prepare their children to enter Grade 1. The lack of support for formal education could stem from the lack of information on how to prepare children or the low value given to formal education. Parents and school professionals also struggled to engage children in safe early education because of communities' and schools' lack of resources and infrastructure. Finally, we find evidence of deeply entrenched gender norms that include men serving as primary household decision makers while women appear to have a lesser say in key decisions, such as those about children's education.

Parent to Parent Component

Based on qualitative interviews at end-line with parents, teachers, and other education officials, perceived positive benefits of the parent-to-parent component of the programme included increased awareness and support for children's eating, hygiene, dress, and on-time arrival at school each morning. Programme participants cited two main strengths of the parent-to-parent education sessions: the use of local parents as parent leaders and the programme's ability to create a space for parents to share experiences.

To analyse the fidelity of implementation of the parent-to-parent component we looked at two key aspects: the selection of the parent leaders and the parent leader training. STC and participating parent leaders reported that the programme used the outlined criteria and the proposed participatory processes to select parent leaders. However, parents reported that the programme did not offer adequate benefits for their participation. The largest issue parents reported was a lack of snacks during the parent-to-parent sessions, although a minority of respondents cited the lack of travel subsidies for parents participating in the sessions.

Two main strengths of the parent-to-parent education sessions: the **use of local parents as parent leaders** and the programme's ability to **create a space for parents to share experiences.**

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To understand the perceived effects of the ASR programme, we assess perceptions of student performance on **key IDELA skills: motor skills, numeracy skills, literacy skills, socio-emotional skills, and executive function skills.**

Child-Level Component

Most teachers stated that at the beginning of the school year, ASR students performed at a higher level than students who had not participated in the programme. To understand the perceived effects of the ASR programme, we assess perceptions of student performance on key IDELA skills: motor skills, numeracy skills, literacy skills, socio-emotional skills, and executive function skills. In terms of literacy skills, teachers frequently reported that programme students had a higher level of Portuguese oral comprehension and oral vocabulary knowledge at the beginning of the year than non-programme students. Teachers at endline also noted that children who participated in ASR demonstrated several socio-emotional competencies that their non-programme peers lacked at the beginning of first grade, including knowing how to play with others, knowing how to participate in classroom activities and ask questions, and knowing how to apologize when someone gets hurt. Last, teachers stated that students who participated in ASR demonstrated higher levels of executive function at the beginning of the school year than their peers, including greater ability to focus and follow directions.Indeed, the quantitative results show that children from programme areas performed significantly higher at the end of first grade relative to children in control areas.

To analyse the fidelity of implementation of the summer readiness course, we looked at three key aspects: the selection of volunteer teachers, the training of the volunteer teachers, and the programme materials. Implementers' accounts of the volunteer teacher selection process match accounts from the volunteer teachers themselves and programme documents. Both the programme staff and the implementation communities stated that the programme selected summer school volunteer teachers and developed programme materials through a collaborative process with communities and MINEDH. The programme also provided trainings to volunteer teachers, school professionals, and school councils on the topics and for the duration outlined in programme documents. The main challenges identified were a lack of transparency in the selection process and difficulty finding volunteer teachers who met the selection criteria.

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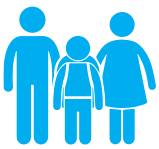
CONCLUSIONS & RECOMMENDATIONS

CONCLUSIONS

The evaluation results show that the ASR programme had positive impacts on children's school readiness at midline and endline, 9 months after the end of programme activities. The impact on child-level outcomes persist over time even though the control group is also performing better at the endline wave relative to midline. We also found that the programme had positive impacts on some parental practices. Our results also show that the ASR programme increased on-time primary school enrolment in a significant way, especially for girls. Based on the cost information collected and analysed, the results show that the cost of the ASR programme is lower to comparable interventions in Sub-Saharan Africa (Ozler et al. 2018)[2] and the average cost of increasing the total IDELA score by 0.1 SD is US$6.5, which is also lower than cost effectiveness ratios found in the literature for similar preschool programmes in Kenya (Donfouet et al, 2018). Lastly, our results on programme implementation show that ASR effectively adhered to programme processes and provided programming that was relevant to local challenges to school readiness. The ASR pilot programme provides strong evidence of impact on school readiness and on-time enrolment for a relatively short-term community-based school readiness intervention. In a resource constraint situation, this intervention may constitute a viable option for the Mozambican Government, UNICEF and partners to accelerate access to early learning, which currently stands at less than 5% (Martinez et al., 2012).

The ASR programme had positive impacts on **children's school readiness at midline and endline,** 9 months after the end of programme activities.



The programme had **positive impacts** on some **parental practices.**

The programme **increased on-time primary school enrolment** in a significant way, **especially for girls.**

[2] Although this intervention was much longer in duration and did not show persistent child-level effects.

RECOMMENDATIONS

Based on the results of this study, we are able to provide recommendations to strengthen the quality of the intervention. The first version of this report was presented in a validation workshop that included UNICEF and its partners, community members, and other key stakeholders. This workshop was used ensure that the evidence from this study – and the resulting recommendations presented herein – have been contextualised and presented in a way that is meaningful and actionable for stakeholders.

Keep the main components of the ASR programme with some adjustments.

The ASR programme demonstrated positive, statistically significant impacts on school readiness outcomes and school enrolment. For a programme that was implemented for a short period of time (3 months), these results are promising. Then, the overall logic of the programme and the way it is implemented do not need to be substantively modified.

Introduce enhanced early literacy instruction.

Our findings show that there is room for improving students' performance on some key tasks that affect emergent literacy skills such as letter recognition and first letter sounds. These skills should be emphasized during the implementation of the child-level component by adding exercises developed by STC literacy experts specifically to address these skill gaps.

Maintain the introduction of Portuguese as a language of instruction in the ASR activities to help students adapt better to primary school.

Our findings underscore the perceived need and desire among educators for children to arrive at Grade 1 with more fluency in Portuguese. To that end, the ASR curriculum, which mixes instruction in Portuguese and local languages, seem to produce a positive impact so that when students enter primary school, which is taught in Portuguese, have a much better adaptation to school and facilitate instruction to teachers.

Incorporate the extended training to volunteers as part of the regular programme.

Given the positive effects of the ASR programme, and the high level of fidelity of implementation, we can conclude that the volunteers delivering the ASR programming to the children did a very good job overall. It was noted that the volunteers required more training than initially anticipated, so we recommend that this more extended training become part of business as usual for programme implementation. It is also important to allocate sufficient time for training since time constraint was cited as an implementation challenge.

Strive to maintain gender parity among volunteers.

Despite the challenges of recruiting female teachers in the programme area, ASR succeeded at maintaining gender parity among volunteer teachers to facilitate the effectiveness of delivering programme activities to participating girls. We recommend engaging community leaders in advertising volunteer teaching opportunities to qualified females in their communities to facilitate recruitment of female teachers.

Use of volunteers may not be sustainable over time and other implementation forms need to be explored.

Related to the use of the community volunteers to deliver the programme, it is important to consider whether their volunteer status is sustainable if the programme continues over multiple years. It is highly likely that as volunteers become more skilled (based on ongoing experience) and/or the programming becomes more embedded as a routine part of education, that there will be increasing pressure for the job to be considered paid employment rather than a volunteer activity. We recommend that the government considers alternative ways of providing the programme for scale-up and sustainability. We believe that the cost of implementing the programme through current public school teachers will be very high and may not be sustainable over time. In the event that programme delivery cannot be scaled up through volunteers, we proposed two options for addressing the financial constraints. The first option is to follow the example of another preschool programme in the Gaza Province in Mozambique that engaged community members in a series of meetings to plan for the sustainability of the programme. Second, given that the programme is implemented at a time when schools and universities are not operating, we propose creating a teaching apprenticeship programme where those who are studying to become teachers at pedagogical institutions are engaged in the delivery of the programme as part of their training and receive academic credit for doing so. These apprentices will not only receive

good pedagogical training to deliver the ASR programme, which can ultimately improve their future teaching skills. These apprentices may receive a compensation similar to the opportunity cost used in the cost analysis as ultimately their participation in the programme will be similar to a training programme.

Maintain the parent-to-parent sessions as an integral part of the model.

Our qualitative results found that parental sessions were very useful in building parental knowledge around school readiness, as well as support for children's success in education through proper hygiene and nutrition, and by helping ensure that children come to school ready to learn (e.g., with clean bodies and clothing). However, the parent-to-parent sessions were largely attended by mothers (or other female caregivers), yet fathers typically have more authority over how the children are raised. So, we recommend finding ways to engage fathers in these sessions as well. To do so, it would be better to have separate sessions for fathers because mothers may speak more freely in the sessions without males being present, and/or the sessions for fathers can be presented as something especially for men, to avoid any perceived stigma of being involved in "female" activities. Additionally, discussions on household decision-making processes around childcare can be incorporated in parent-to-parent sessions to facilitate behaviour change.

Improve the way to transmit key messages to parents during the parental sessions.

Some parents reported not fully understanding the reasons behind the practices promoted. Although current programme materials are well developed to transmit key messages to parents on how to improve child-level outcomes, there is room for improvement in terms of clearly explaining the rationale behind suggested changes in parental behaviour. It is important to provide more support to parent leaders in the communities to help them implement behaviour change exercises around existing parenting practices on a more continuous basis. Some of this support can be provided in collaboration with the current primary school officials and school councils. For example, parent leaders could be provided refresher trainings on social and behavioural change communication in order to deliver parental training sessions with key messages about good parental practices more effectively. Lastly, parental leaders could receive some small compensation for their work in order to increase their level of commitment with the programme.

Provide some small incentives to parents who attend ASR activities.

We heard from parents that there were some negative responses to the parent-to-parent sessions because parents felt that they had been given insufficient benefits for attending (such as consistent availability of a snack, or a transportation allowance). Given the extent to which participants otherwise enjoyed and learned key information from the sessions, we recommend finding ways to reduce these potential barriers to participation. Also, it is important to provide incentives to those parents who are selected for providing programme activities and find a consistent way to select those parents who are also community leaders and have a higher chance of conducting the parental component successfully.

Keep the timing of the programme for the months right before the start of primary school but increase the reach of programming within communities.

Typically, the children who miss out on this kind of programming are the ones who need it the most. Given our findings about the sustained benefits of participating in the ASR programmed, combined with concerns about low rates of enrolment, it will be important for stakeholders to determine how to engage a higher percentage of pre-primary-aged children in this effective intervention. It is possible that the programme being implemented at the time of the harvest season affects programme participation. Nevertheless, we do not recommend changing the timing of the ASR programme. It is likely that the high estimated impacts on first grade enrolment are due to the fact that the programme is provided right before the beginning of primary school, which creates momentum for children to keep attending school activities. If anything, we recommend slightly adjusting the timing of the ASR programme to start in early January if that helps improving attendance to avoid conflicting with end of year activities. However, if agricultural activities are competing with programme activities, one option is to consider when the best timing in the day is for implementing programme activities. In many communities, most agricultural work is done in the morning. It would be worth exploring if the ASR activities can be offered in the afternoon hours.

Make small improvements to classroom infrastructure.

While the lack of sufficient classroom space cannot be addressed effectively without incurring in additional costs, smaller improvements can be made to ensure sustainability of the programme, especially if the timing of the intervention does not change. Specifically, we found that classroom floors can accumulate rainwater during the rainy season, which makes it impossible for children to sit on. We recommend exploring the possibility of engaging the community in contributing chairs made from local materials to address this need.

Introduce a school feeding component.

Community members reported that children had trouble concentrating in classes because meals were not provided. Adding a morning snack to the programme can help address perceived concentration issues as well as the general lack of motivation for parents to send children to school and for children to attend school. There is a wealth of evidence that school feeding programmes improve participation, especially for young children in contexts where school participation is low (Adelman et al., 2008; Kazianga, de Walque, & Alderman, 2010). We recommend partnering with the WFP-supported National School Feeding Programme (PRONAE) or other nutrition-focused programmes operating in the region.

Scale-up the programme in other districts in Zambézia as well as other provinces in country.

The findings from the evaluation clearly demonstrates that it is possible to establish a low-cost school readiness initiative in Mozambique. The results of the programme indicate that there are positive impacts on key cognitive and non-cognitive child dimensions and that the impacts are long-lasting over time. Moreover, the results show that local communities and parents, as well as the higher government levels, are both interested in and willing to keep participating in this type of early childhood initiatives. Lastly, the results of the costing exercise suggest that initiatives such as the ASR programme is worth exploring given its high levels of cost-effectiveness and that this type of programmes can be the first step to establish a larger preschool initiative in Mozambique led by the Government and supported by UNICEF and other organizations like the World Bank. The high implied long-run returns from investing in this early childhood initiative in Zambézia should serve as the seed to start a national conversation about the urgency of adapting early childhood education models.

NOTES

NOTES

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