

I. Pilot background and overview: learner context, pilot design, pre-pilot activities and inputs including teacher training, implementation models (integration vs standalone and remote vs in school), radio use, projects selected

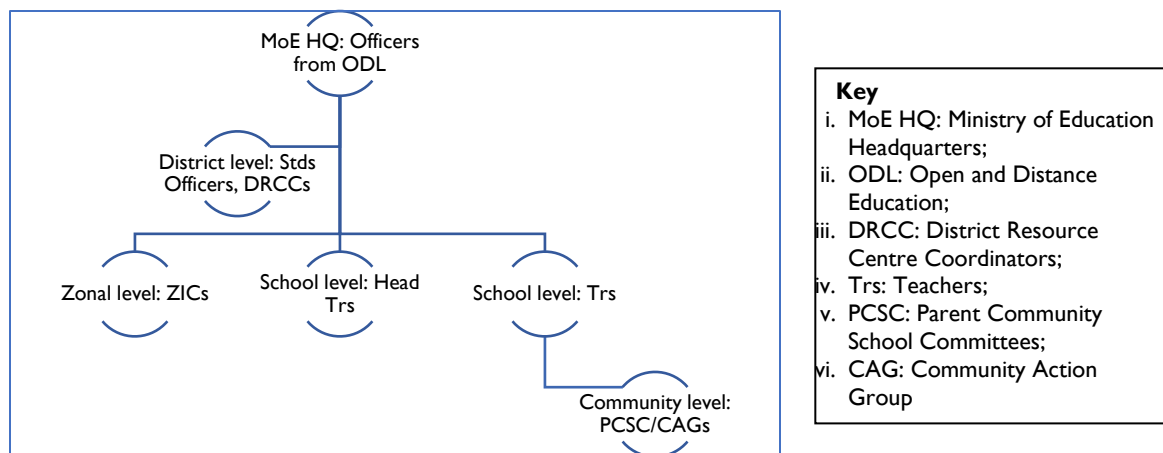
ZOCS planned to implement a total of 12 IFERB projects selected according to the ages of the children targeted in two rural districts of Western Province namely Nkeyema and Kaoma. The 12 IFERB projects would be printed and delivered to the targeted children through their schools. Each of the target schools would also be supplied with a radio with IFERB content. Thus, the children would interact with the IFERB content in print form and through the radio. A total of 2,000 learners were targeted in 30 schools of which 20 were in Nkeyema and 10 in Kaoma. The choice of the projects was guided by the nature of the skills and competencies needed by the children for their lifelong learning and success in their education journey. These skills and competencies, which included numeracy, literacy, Communication, critical thinking, exploration, creativity and independent learning, would enable the targeted children engage in independent and cooperative learning and stretch their inquisitiveness around their environments and contexts. Another factor that was considered in the selection of the projects was relevance to the Zambian Primary School Curriculum guided by the Ministry of Education.

The 12 selected IFERB projects were as indicated below:

- i. *Around the World in 46 Days 11-14 Level 3*
- ii. *Design your own comic book 11-14 Level 3*
- iii. *Exploring our Solar system 11-14 Level 3*
- iv. *Family Tree 11-14 Level 3*
- v. *Shadow Play 11-14 (Level 3)*
- vi. *Water is life 11-14 Level 3*
- vii. *My animal park 8-10 Level 2*
- viii. *Our house rules to keep COVID19 away 11-14 Level 3 (1)*
- ix. *Adventures in the plant kingdom 11-14 Level 3*
- x. *Imagine That 4-7 Level 1*
- xi. *Money Matters 8 – 10 Level 2*
- xii. *My Encyclopedia 8 – 10 Level 2*

In order to ensure the Ministry of Education (MoE)'s buy in and ownership of the intervention, the planning stage involved officers from the Ministry mainly at national and district levels. The district level officers were more involved because they were well placed to advise on the selection of schools as they knew specific local geographical contexts and terrain of the communities where the schools were located.

The key officers from the Ministry that were closely involved design and implementation were as shown in figure 1 below



- Key**
- i. MoE HQ: Ministry of Education Headquarters;
 - ii. ODL: Open and Distance Education;
 - iii. DRCC: District Resource Centre Coordinators;
 - iv. Trs: Teachers;
 - v. PCSC: Parent Community School Committees;
 - vi. CAG: Community Action Group

Figure 1: Key MoE officers involved in the IFERB project implementation

The intervention involved a total of 101 teachers who supported learners in the 30 project schools. The teachers were trained under a cascade model with an initial 51 teachers (27 Male; 24 female) undergoing a centralized training during a master training at Kaoma Secondary School. A head teacher and one additional teacher from each of the schools attended the centralized master training and these rolled out the training during continuing professional development (CPD) meetings in their respective schools. The roll out trainings were done in only those schools that had more than two teachers. Following the roll out trainings, an additional 50 teachers were trained bringing the total number of teachers trained to 101 as indicated above. For the content of the training refer to Section C below. The teachers were further supported through coaching and mentorship provided by District Resource Centre Coordinators (DRCC) and a zonal insert coordinator (ZIC) in the case of Nkeyema District. Furthermore, the teachers interacted through review cluster meetings for peer support and received further support through monthly conference phone calls facilitated by ZOCS.

The duration of the intervention was three (3) months beginning in January, 2021. However, due to the spike in the COVID – 19 cases leading to delayed opening of schools and restrictions in gatherings by the Government, teacher training took place only in mid-February paving the way for the commencement of implementation in March, 2021. Owing to the routine school holidays in April, the project was due to be completed in June but was delayed because of another more severe wave of COVID – 19 leading to a prolonged closure of schools from 17th June to 9th August, 2021. As a result of the June school closure, ZOCS utilized an innovation of remote learning with learners doing the projects 9 to 12 in village clusters monitored by Parent Community School Committee (PCSC) and Community Action Group (CAG) members. The PCSC and CAG members mobilized learners in village clusters and distributed projects to them after an orientation on how to support the learners. This orientation was provided by teachers and head teachers in the project schools. There were feedback meetings between the PCSC/CAG members and teachers for further guidance to the latter since they did not have knowledge and skills in pedagogy. Once a week the head teachers visited the learning clusters not without challenges which included prolonged time spent outside their official working areas to technically support CAG and PCSC members in the latter’s provision of support to learners and physical lack of transport in form of a vehicle or bicycles for their mobility. The teachers raised these issues during the teacher Focus Group Discussions (FGD).

1.1. learner context

Underserved children in rural areas of Zambia lack educational materials and resources for them to enrich their learning and studies unlike their counterparts in urban areas. Furthermore, children in rural areas do not have opportunities for continued learning during the lockdowns and school closures induced by COVID – 19 and other possible future pandemics due to lack of access to educational distance learning resources. Therefore, ZOCS found it imperative to target children in the two rural districts of Western Province namely Nkeyema and Kaoma during the pilot phase of the IFERB projects in order to help close the gap on opportunities for enriched and continued learning between children in these rural areas and those in urban areas.

Although the initial target provinces for the pilot phase were Lusaka and Copperbelt, the target provinces changed to Western Province because of the presence of a co-funding partner in the latter province which was critical for funding teacher training and monitoring activities as well as teacher Focus Group Discussions (FGDs). Beyond the pilot phase it is envisaged that the intervention would be blended together with the fast-track strategy used by ZOCS to accelerate OOSC's learning to catch up with their peers as it will provide an opportunity for them to have access to all needed education materials.

ZOCS and MoE planned to implement the projects mostly through integration into the existing curriculum by identifying carrier subject areas and related content in the primary school curriculum although the standalone model was also considered. The identification of carrier subject areas and related topics was done by the Ministry of Education (MoE) officers at district level with support from ZOCS. Thus, during the first 3-4 weeks of implementation the children did their projects alongside their learning areas in their classrooms.

1.2. Pre-pilot activities and inputs

The pre-pilot activities that were planned and carried out on this intervention included the following:

- Identification and contextualization of the projects;
- Identification of the schools and their locations;
- Provision of radios and radio content;
- Baseline evaluation;
- Printing of the projects;
- Training of ZOCS staff and MoE officers on emotional learning and IFERB projects;
- Training for teachers and head teachers from the target schools on IFERB projects;

1.2.1. Identification and contextualization of the projects;

Contextualization of the projects was considered a critical pre-pilot launch activity as it was going to ensure the projects were suited to the context of the children targeted by the intervention. The contextualization process was jointly done by MoE officers and ZOCS staff with guidance from Education Above All (EAA) and it involved the following:

- Ensuring relevance to the Zambian context, especially Western Province where the projects were implemented, by modifying names (of people, places, animals and other things), money currency and events to fit learners' contexts including the cultural setting;

- Aligning projects with the national curriculum by identifying corresponding content in various study areas of the Zambian Primary School curriculum for each project aimed at demonstrating to the Ministry the relevance of the IFERB projects; and
- Aligning projects with students' contexts thereby making them relevant to their experiences; a good example being ***Around the World in 46 days*** which ensured opportunities for touring Zambia's 10 provinces and learning about their unique cultures, dominant crops and languages.

Involvement of MoE officers provided an opportunity for the Ministry to fully understand the intervention resulting in their buy-in, an important aspect for sustainability of the intervention and easy scaling up in future. It also legitimized the intervention as it was seen to be a Ministry approved intervention.

1.2.2. Training of ZOCS staff and MoE officers on emotional learning;

There were two trainings that were provided by EAA to ZOCS staff and MoE officers as pre-pilot launch activities namely an introduction to the Internet Free Educational Resource Bank (IFERB) and Social and Emotional Learning (SEL). The introduction to the IFERB was aimed at preparing the team for the implementation of the IFERB projects and the training of teachers who were going to support the learners. The training content covered a wide range of topics on the concept and content of the projects and how to implement them. The content also included: main features of the IFERB projects, contextualizing and adapting the projects, guidelines for working with caregivers and learners, building students' engagement, developing students' reflection skills, holistic evaluation of students' work and assessing student learning. The training was provided by EAA via a virtual platform to the Zambian team and informed the training of teachers from the target schools by ZOCS staff and MoE officers.

The training on Social and emotional learning (SEL) was delivered by Dream A Dream foundation during which strategies on promoting holistic child development were explored. Some of the skills discussed included self-regulation, persistence, empathy, self-awareness and mindfulness, identifying key competencies for developing SEL, the need for building SEL among young people, how adversity impacts a young person's SEL and building SEL among students by teachers. The SEL training was important in that it helped to respond to the emotional needs of both teachers and learners because of their challenging backgrounds which included most teachers being volunteers who are not well remunerated for their services by local communities and children coming from economically challenged households.

1.2.3. Training for teachers and head teachers from the target schools;

The training for teachers from the target schools was aimed at building their capacities to effectively support the learners through the projects and how to assess their growth evidenced by demonstrable skills and competencies through their involvement in activities. It was delivered by officers from the Standards and Teacher Education structures of the Ministry of Education at district level namely Standards Officers in charge of Open and Distance Learning (ESO – ODL) and District Resource Centre Coordinators (DRCC). Care was taken to ensure that the head teacher was one of the teachers trained from every target school in order for them to provide the needed leadership and support to both teachers and learners during implementation.



Figure 2: Teachers at training session in Kaoma; February, 2021

The training covered most of the content in the training that was provided by EAA to ZOCS staff and MoE officers. The teachers were given an opportunity to chart the correlation between the projects' content and the topics in the Zambian primary school curriculum. Furthermore, two models of implementation were discussed during teacher training namely implementing the projects as standalone projects on one hand and integrating them into the existing curriculum on the other. The implementation model evolved from integration to standalone for reasons discussed in Section 4.1.4 below. The MoE structures at district levels were fully involved in the evolution of the implementation models.

1.2.4. Radio Use

The radios were used in the classrooms to supplement print materials and the physical teacher. More importantly, the radios were also used in the village clusters though with restrictions because of limitation of safe storage facilities in the villages. Children would perform tasks as instructed by the radio teacher. Additionally, the radio teacher clarified and simplified content and concepts in the projects thereby enabling them to fully understand the gist of the projects.

During remote learning, when the PCSC and CAG members were de facto teachers, the radio teacher played an even more significant role in directing learning and performance of hands-on tasks. Gathered in clusters, children followed instructions from the radio teacher who guided them on the learning activities, the materials they needed to complete the tasks with further illustrations from the CAG and PCSC members. With the guidance from the radio teacher, PCSC and GAG members identified and mobilized the needed materials some of which were also brought by children. Head teachers who regularly visited village clusters and interfaced with PCSC and CAG members further clarified any technical challenges faced by the CAG and PCSC members in supporting learning processes. In the classroom too, the radio teacher was an added resource to the volunteer teachers most whom have no professional teacher qualifications.

The development of the radio content was done with the support of Education Broadcasting Services, a department within the Directorate of Open and Distance Education (DODE) of the Ministry of Education. The funding for the development of radio content was provided by a co-funder called Hei Verden (HEI).

2. M&E: baseline description and results, endline results, impact as reported by students and teachers, include testimonials from participants as well as implementing partner staff (capacity building etc.). completion data is missing

2.1. Baseline description and results

In order to set a baseline which would enable ZOCS account and measure the impact of the IFERB projects at the end of the pilot phase, ZOCS conducted a baseline survey to assess the baseline performance of learners in the 12 IFERB projects. The baseline survey assessed a total of 400 learners from Nkeyema and Kaoma Districts of Western Province. The assessed children were in the age range of 7-14 and in the Primary grades of 5, 6 and 7.

The baseline survey used oral assessment which was administered to the learners that were not able to read and write and a written assessment questionnaire was answered by the learners who were able to read and write. The assessment had 10 questions drawn for each of the 12 Projects. Marks were allotted as follows based on category;

| Question Category | Marks |
|--------------------------|-----------------|
| Discovery Questions | 5 Marks |
| Skills | 3 Marks |
| Knowledge | 2 Marks |
| Total Marks | 10 Marks |

The following was the standard rating used for learners based on their performance on the assessment;

- a. Level 3: These are learners who scored above 6 out of 10
- b. Level 2: Are learners who scored between 4 to 5 out of 10
- c. Level 1: Are learners who scored less than 4 out of 10

The average score scored by the learners in all the 12 Projects was 6/10 (60%). These results were compared to the endline results as presented under 2.3.1 below.

2.2. Endline results, impact as reported by students and teachers, include testimonials from participants as well as implementing partner staff

2.3. Endline evaluation

At the end of the intervention ZOCS conducted an endline survey. The endline survey used the same tool that was used during the baseline survey before the commencement of the intervention. The endline survey was administered to the same students that took part in the baseline survey in order to correctly

measure the impact of the intervention by measuring the growth or lack thereof in the students that participated in the two surveys.

The survey was administered by teachers in their respective schools after they had been oriented to the survey tool. One of the limitations of the survey was the transfers that happened after the baseline survey before the commencement of the intervention thereby marginally affecting the number of learners targeted for the endline survey with the most affected school being Shikonde Community School where many learners in Grade 6 were transferred to a newly established Government school. Thus, while the baseline survey captured a total of 400 learners, the endline survey captured a total of 259 of whom 124 were boys and 135 girls as shown by the table below:

| District Summary | Number of Children Assessed | | |
|------------------|-----------------------------|------------|------------|
| | Boys | Girls | Total |
| Nkeyema | 63 | 75 | 138 |
| Kaoma | 61 | 60 | 121 |
| Total | 124 | 135 | 259 |

However, the 259 learners who participated in the endline survey were still above the 10% threshold required for the endline survey. The assessed children were in the age range of 7-14 in the Primary grades of 5, 6 and 7 based on the standards set during the baseline survey.

Out of the 259 learners that participated in the endline survey, 23 learners (13 boys; 10 girls) from Shunguwayenda and Katobo Community Schools did the oral assessment.

Summary findings

The average endline scores for boys and girls are 69% and 75% respectively.

The overall findings of the endline survey showed:

- significant growth in learners across seven (7) projects namely *Design your own comic book, Exploring our solar system, Family Tree, Shadow Play, Water is Life, Adventures in the Plant Kingdom and Money Matters*;
- marginal growth in learners in four projects namely *Around the World in 46 Days, My Animal Park, Our house rules to keep covid-19 away and Imagine that*;
- no basis of comparison for one project namely *Grand Mother's tales* as there was no baseline data to compare the performance on this particular project; and
- confirmed that learners acquired sufficient of numeracy, literacy, communication and critical thinking.

One of the projects where there was marginal growth namely *Around the World in 46 Days*, was the very first project to be implemented probably before the teachers had sufficiently grown in the use of project-based learning. Furthermore, another project where learners had marginal growth, *Imagine that* was the first to be implemented during the remote learning model after the closure of schools. Although it is difficult to pinpoint the cause of the marginal growth, these factors could have had a bearing.

Conclusion

Notwithstanding the four (4) projects with marginal students' growth, the endline survey findings demonstrated that the IFERB projects intervention had a positive impact on enhancing students' skills and competencies which included numeracy, literacy, communication, critical thinking, exploration, creativity and both independent and cooperative learning. Project based learning also increased bonding between parents/guardians and their children as it required close consultation between the adults and children for it to be successfully done.

2.3.1. Detailed endline data

The endline data analysis showed that:

- The endline score for girls (75%) was marginally better than that for boys (69%) on average; the overall average score was 72%
- The lowest score for both boys' (43%) and girls (51%) was in the project “**Imagine That**”; and
- The highest score for both boys (43%) and girls (51%) was in in the project “**The Family Tree**” (43%)

2.3.2. Impact

Student engagement and teacher involvement rates were very high with 100% of the teachers that were trained being involved in supporting the students and 93% of the targeted students completing the projects.

| | |
|---|-------|
| Percentage of students participating in the projects | 96.5% |
| Student dropout rate (or absenteeism) | 3.5% |
| Percentage of students completing projects | 93% |
| Percentage of satisfaction of all stakeholders (students, teachers and parents) with learning resources | 95% |
| Percentage of teachers expressing desire to continue using IFERB or PBL | 95% |
| Percentage of students and/or parents satisfied with resources | 65% |
| a. Engagement with the projects | 93% |
| b. Satisfaction with learning gained through projects | 65% |
| Percentage of teachers satisfied | 98% |

What teachers Said:

“The methodology of the projects has changed our way of lesson delivery; we are getting children more involved and to take responsibility for their learning”- Kapelwa, Headteacher – Libuyungu Community School;

“The content and activities in the projects made learning much more interesting and a kind of fun. Children were more eager to go to school”: Ms. Mubita – Maheba Community School

“Learners gained several skills including reading and writing especially in lower grades and critical thinking. Design your own comic book project helped learners acquire many skills including analysis, critical thinking, communication – speaking and listening as well as reading and writing and design. Also, creation of stories led to bonding with families since students discussed topic with parents/family. After learners created comic book they also shared and read aloud to class. Sharing their stories with the class helped them gain confidences to stand before their fellow learners” – Wambinji and Nganga – Kaoma District.

The teachers explained that both they and learners enjoyed the projects because they made learning fun. The projects promoted play-based learning which makes both learning and teaching interesting. This resulted in increased interest in school and ultimately improved school attendance by the children that did the projects.

What the learners said:

“Doing the project on Designing your own comic book made talk more to my Father and Uncle” – Njamba Ngebe from Mabuji Community School

“From Animal Park, now I know we need to protect Kalulu” – Musipili Nakubiana from Mikube Community School

3. Challenges faced and how they were overcome.

3.1. Challenge areas

3.1.1. Student learning

From the findings of the endline survey it was evident that the children would have needed more time than they had three projects namely *Imagine that, Adventures in the plant kingdom and Our house rules to keep COVID – 19 away*. This may be attributed to not having enough time to acquire the core skills and competencies in these projects. The teachers tried hard, though, to ensure more time was given to the learners did not complete specific projects in one week to complete the project the following week.

3.1.2. Teacher training

A cascade model was used for teacher training as the centralized training was attended by only the head teacher and one additional teacher from each of the schools. The teachers who attended the centralized (master) training rolled out the training during continuing professional development (CPD) meetings in their respective schools. During monitoring and teacher focus group meetings, teachers indicated that some of the teachers who did not attend the master training felt they would have benefited more if they also attended the master training rather than being trained by their colleagues. However, the district teams (namely District Resource Centre Coordinators (DRCC) and a zonal insert coordinator (ZIC) in the case of Nkeyema District) always supported the schools as a way of mitigating any gaps that may have resulted from non-attendance of master training.

3.1.3. Parental involvement

Although parental involvement worked well because the design of nearly every project required children to get specific information and guidance from adult members of their families in order for them to complete some activities, there were still some challenges that could have limited it without mitigation. Some of the challenges centred on use of English which was mitigated by the learners or other members of the families who understood English translating to those who did not. Another challenge centred on busy schedules of parents which limited interaction between the parents and their children. Although this challenge did not have an easy solution, engagement meetings between teachers and parents helped to change parental attitudes and make them see that their children’s educational issues including homework should be part of their schedules.

3.1.4. Implementation models

During the monitoring and review meetings conducted in the third week of implementation, challenges arising from the subject integration model of implementation were noticed and documented. The challenges centred around how to assess children’s attainment of skills and competencies from specific projects, how to attribute children’s learning and growth to the IFERB projects, how to track children’s completion rates of each project and how to ensure that content from the IFERB projects was included in appropriate topics of the curriculum. These and other findings necessitated a change from the integration to the standalone model of implementation.

The standalone model was adopted by all schools beginning at projects 3 and 4 up to the end of the intervention. In order for the standalone model to succeed the projects were given 30 – 40 minutes sessions at the end of each day by most schools. The standalone model was also used during the period when schools were closed and the intervention was implemented through a remote learning approach supported by PCSC and CAG members. Going by the success of the standalone model, this is the model that would be used in future in the event of a scale up of the intervention.

3.1.5. Review meetings and challenges discussed

The teachers had bi-weekly review meetings some of which facilitated and attended by ZOCS aimed at discussing implementation challenges and finding common solutions. Table 1 below shows some of the issues discussed during these review meetings.

Table 1: Issues discussed during review meetings

| Period | Challenge/learning discussed | Solutions suggested |
|----------------|--|---|
| Project 1 | During this project ZOCS did not have a platform for cross learning from other schools implementing the IFERB projects | Teacher clusters were set up to resolve this challenge. This was further supported by conference phone calls facilitated by ZOCS. The conference phone calls were also served as avenues for communicating suggestions from the EAA education specialist during later weeks |
| Projects 2 – 3 | Subject integration followed during the first was challenging | The implementation model was changed from subject integration to standalone. |

| | | |
|----------------|---|---|
| | <p>because it was difficult to evaluate individual projects;</p> <p>The content of the projects made learning much more interesting for the children and they were more eager to go to school</p> | <p>Teachers were challenged to make their daily delivery of the Zambian curriculum more learner centred with increased learner involvement in doing tasks</p> <p>One of the ZICs in Nkeyema District was appointed and supported with logistics by ZOCS to provide on-site mentorship and coaching to teachers.</p> |
| Projects 4 – 6 | <p>Doing work after class was a challenge. Additionally, in some schools where there were few teachers (two in a school), it was not easy to monitor progress of individual children.</p> <p>Children enjoyed learning through games and other hands-on activities in the project; Children were motivated because the materials tasks were learner centred – hands-on especially making the dice and designing their own games and making rules; the project helped us think about concrete teaching aids for use in the classroom for other lessons (as close to the real world as possible). the children also learned to cooperate with their friends</p> | <p>Schools that successfully implemented projects 4 – 6 indicated that they timetabled about 30 minutes after school for each project during which children were guided on their work and take-home tasks which they reported on the following day. The take home tasks were mainly those that required input from parents/guardians or adult members of the children’s families. This approach was followed by most schools thereafter.</p> <p>The teachers were always challenged to internalize the approach in the projects where the children are continuously active during learning.</p> |
| Projects 7 - 9 | <p>Some teachers reported, “the methodology of the projects has changed our way of lesson delivery; we are getting children more involved and to take responsibility for their learning”.</p> | <p>The teachers were always challenged to share this methodology and philosophy of teaching with their colleagues in non-project schools.</p> |

| | | |
|------------------|---|---|
| | There was also the challenge of continued learning after premature closure of schools | Schools adopted the utilization of existing structures namely PCSCs and CAGs. Members of these structures distributed printed projects to learners in village clusters. |
| Projects 10 - 12 | Learning through village clusters during school closure resulted in a valuable lesson that continued learning is possible during school closures. However, teachers highlighted the challenge of monitoring and giving technical support to CAG and PCSC members since they had no teaching experience. | Head teachers regularly visited village clusters and interfaced with PCSC and CAG members to further technically support them |

4. Key learnings: what ZOCS learned from implementing this project

The following were the lessons learned and adjustments that were made which resulted in a strengthened programme implementation.

- 4.1. The change of the strategy to include remote learning supported by Community Action Group (CAG) and Parent Community School Committee (PCSC) members showed that remote learning supported with sufficient print materials (with radio content) can be utilized to support continued learning when schools are closed due to unforeseen circumstances like the case was with COVID – 19. With the learning by ZOCS during the pilot phase of this intervention, the organization will ensure that these strategies are an integral part of both the project design and actual implementation going forward;
- 4.2. Weak internet strengths which initially affected the holding of FGDs with teachers made ZOCS utilize more of conference phone calls with teacher clusters. In future the project design should include FGDs by phone conference calls among teachers as well as CAG and PCSC members with its own budget line;
- 4.3. Technical support given by a locally appointed officer from MoE worked very well in providing coaching and mentorship to teachers in target schools thereby necessitating the inclusion of coaches and mentors in future interventions.
- i. Major project accomplishments, challenges and impact: Discuss project challenges, mitigation strategies and deviations from initial project plan.

The major accomplishments of the IFERB projects intervention that stand out include the following:

- *Strengthened bonding between CAGs/PCSC/zonal in-service coordinators and teachers. Although the CAG and PCSC are existing school-community structures, they have mainly been useful for construction works, mobilization of community adult members and other school governance matters. Their*

involvement in providing support for remote learning increased the bonding between these structures on one hand teachers and school administrations on the other. While their traditional obligations happen at long intervals, their support for remote learning was a frequent feature and a potential that needs to be harnessed in future.

- *The level of children's hands-on work was another standout accomplishment as evidenced by the pieces of work in some of the project schools. Traditionally, most of the teachers' instructional practices rarely involves children in hands-on activities. Most practical work ends up as demonstrations by teachers while learners answer questions based on the demonstrations. However, during the IFERB projects, the learners were responsible for their own learning and did the outlined activities.*



Figure 3: Children's hands-on work for My Animal Park,