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PEOPLE AND SYSTEMS FOR WATER, SANITATION AND HEALTH

## Promotion of healthier behaviours through school children

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STUDIES CARRIED OUT worldwide have shown that provision of safe water and sanitation facilities can only optimize a reduction of water and sanitation related diseases if sustainable changes in hygiene behaviour are achieved. Adoption of new behaviour is a difficult task in itself. The major objective of the Water and Sanitation Extension Programme (WASEP) is to significantly reduce diarrhoeal incidence in partner villages located in northern Pakistan. In order to achieve its objective, WASEP has been striving hard to bring about behavioural changes at grass-roots level, in addition to assisting communities to establish safe water and sanitation facilities. One of the most important initiatives towards this end has been the promotion of healthier behaviour through primary schools. This paper will describe and share the need, development and implementation, impact, and issues related to this initiative in the context of northern Pakistan.

### Rationales for involving children in projects

With the full implementation of water and sanitation projects, WASEP initiated a health and hygiene education programme focussing mainly on women. Post-evaluation of the initiative after one year of implementation, revealed a significant impact on adoption of healthier behaviours and reduction in diseases (Ahmad and Alibhai, 2000). However, monitoring results showed that special attention had to be provided to school going children as certain unhealthy behaviours were common among them. Some of these behaviours were: (i) reticence in using latrines, (ii) lack of handwashing after defaecation, (iii) drinking from open channels despite availability of tap water nearby, (iv) eating unwashed fruit, and (v) eating without washing hands.

Majority of women expressing their views on the above issues said that their school going children weren't adopting health and hygiene education messages conveyed to them. One of the major reasons cited was the perception that children apparently have more knowledge than their mothers "who were uneducated." Keeping in view the demand of the communities for educating and involving school going children in the process of behavioural change, and recognising that promotion of healthier behaviours through school children will maximise the benefits of water and sanitation projects, WASEP launched an initiative of the School Health Improvement Programme (SHIP) in its partner communities. The promotion of hygiene behaviour

through SHIP, is based on the assumptions that (i) children can act as role models, (ii) children can take action to prevent ill health, (iii) children can easily spread their knowledge to others, (iv) they can influence their parents and siblings, and (v) it is easier for children to adopt new behaviours than older people and hence they can bring sustainable changes in future. Since children in the age group of 8-15, are responsible for helping mothers in taking care of younger children. Therefore, adoption of healthier practices by younger children, especially girls, is highly desirable to reduce the risk of water and food borne disease among children under five years of age. Analysis of baseline data collected in partner villages for age wise distribution of diarrhoeal cases revealed that children under five years of age as most vulnerable age group. If we include the next age group, then 80 percent of all diarrhoeal cases are in the age group below 15 years and only 20 % in age group above 15 years old. This data clearly depicts the need to include young children in the process of promotion of healthier behaviours.

### Curriculum development

A curriculum for SHIP, at primary school level, was developed based on Child to Child (CtC) approach in close collaboration with the Institute for Educational Development (IED), Aga Khan University, Karachi, with an overall objective of facilitating adoption of healthier behaviours by involving children in all phases of behavioural change from planning to evaluation. The curriculum consists of eight topics: (i) Clean Hands, (ii) Children's Stools and Hygiene, (iii) Clean, Safe Water, (iv) Diarrhoea: Causes, Prevention and Cure, (v) Intestinal Worms, (vi) Clean, Safe Food, (vii) Personal Hygiene, and (viii) Management Issues related to O&M of WSS (Ahmad and Jina, 2000). The curriculum is designed to make use of active teaching methods such as group discussion, stories, role-playing, and cartoons. Each topic is objective oriented and designed to disseminate its message based on *knowing, doing and feeling*. One of the important characteristics of the curriculum is that it allows children to determine the problems by themselves and subsequently think, plan, take action and monitor the outcome. The curriculum allows children to translate ideas into creative activities and understand health and hygiene. In order to implement the curriculum, intensive training was provided to Health and Hygiene Promoters (HHPs) of WASEP.

**Table 1. Summary of results of KAP surveys conducted in Primary Schools**

Questions asked during KAP survey (inherent prevalent old notion).	Before (% agreed/yes)	After (% agreed/yes)
I know how to make ORS	6.5	75.4
Running water is always safe.	66.3	23.2
Only during illness clean water should be used.	64.6	13.9
Open defaecation is a good practice during diarrhoea.	62.8	23.3
Sweet things may cause worm infestation.	87.3	60.6
Less sleep may cause diarrhoea.	48.4	12.7
Too much hardwork may cause diarrhoea.	62.0	20.6
We don't need to wash our hand when there is no visible dirt.	64.5	19.3

### Impact of school hygiene education

SHIP was implemented in more than 100 schools located in partner villages, where more than 1500 sessions were conducted. As a result of this initiative, different actors such as teachers, parents, and WASEP staff felt that a positive impact had occurred by involving children in the promotion of healthier behaviours. For measuring the impact of the initiative various methods such as KAP surveys before and after intervention, interviews with mothers and teachers, independent evaluation by teachers themselves, and direct observation of certain behaviours were employed.

### Disseminating the message

Observations made during the household visits revealed that children had shared their new knowledge with other community and family members. Students had also shared stories that they had learned during the sessions with their friends while playing outside. During a household visit, a mother said, "...although my 6 years old child was not attending your sessions, he told me everything about what you taught other children in the school as he learned all these from other children." A village girl narrated to the HHP, "what do you teach in schools; my brother always give advice to family members about cleanliness of house and personal hygiene. He keeps soap near water channel and washes his hands with soap and forces others to use soap for handwashing. He says that we get diseases if we eat food without washing our hands". More or less in all villages children conveyed messages to others (community members) especially non-school going children through roles plays, posters, and stories. Students from non-projects villages also shared messages with others in their respective villages. During a recent baseline KAP survey in a new selected village for intervention, when a woman was asked how did she know causes and prevention of diarrhoea and intestinal worms, she said, "I learnt all these from my child

who is going to a school located in other village called Gram" (a partner village selected in 1999 for intervention where SHIP was implemented a year ago). Sample pre and post KAP surveys conducted in six schools indicated that health knowledge of children greatly improved: knowledge of making ORS increased from 6.5% to 75.4 %; the percentage of students considering running water entirely safe dropped from 66.3 % to 23.2%. Table 1 shows results of the pre and post intervention for some of the indicators. While interpreting results, it should also be noted that post KAP surveys also include students who hadn't directly participated in SHIP sessions (i.e., they were at Class II while SHIP sessions included students from Class 3 to Class 5).

### Transforming knowledge into action

As part of their independent research activity, students observed many incidences of open defaecation in the streets around their homes. In Hopay, SHIP students organized a campaign to safely dispose of the faeces (burial) and improve the village environment. A group of girls in Broshal initiated a community beautification project following a SHIP session by collecting and sanitarly disposing of solid waste from the village, and sweeping the streets around their homes. In Shishkat, children brought soap to the school after attending session on handwashing on the previous day, and said, "at home we wash our hands with soap but what would we do in the school, that is why we have brought soap with us." In Datuchi, students have been maintaining cleanliness of streets and general environment on regular basis. In Barkolti a child motivated his father and elder brother to dig a pit for defaecation and in just one day they dug a pit and covered it with wooden sticks, making squatting hole in the middle as an immediate solution to open defaecation. In some schools, teachers reported that students played active roles in construction of latrines for schools. Interviews with parents revealed that children also tried to motivate their parents to a build

household latrine. However, it should be appreciated to quantify how many extra latrines were built at community level due to promotion efforts undertaken by children alone. Latrine coverage at community level increased from an average value of 70% for 1998 partner villages (with no SHIP intervention) to 85% in the case of 1999 partner villages (with SHIP intervention) despite reduction in subsidy for 1999 partner villages. The near 20 % increase in latrine coverage in the case of 1999 partner villages partially could be attributed to efforts undertaken by school going children to promote sanitation at community level.

### Monitoring of hygiene behaviour

As a result of SHIP, children proved themselves effective monitors of hygiene behaviour at household and community level. In many villages when WASEP compared monitoring data collected through interview with women to that collected by children using observational technique, it was found that children's findings presented relatively true picture of the prevailing situation. For example, group discussions with women on handwashing practices during baseline surveys revealed that a huge majority of family members washed their hands with soap after defaecation and before eating. In contrary, children data collected at household level on a previous day recall revealed a different picture i.e., only 6 % of people washed their hands with soap. As a result of sharing children findings with them, women altered their answers to provide a picture more consistent with the children's findings. Realising the effectiveness of children in monitoring, WASEP provided an opportunity to children to conduct pre and post surveys on handwashing practices. The data collected by children from six schools located in three partner villages on handwashing practices at baseline and after 19 months of intervention is shown graphically in Figure 1. As can be

seen from the figure handwashing with soap before eating and after defaecation increased from a baseline value of 19% and 15 % to 62 % and 79 % respectively showing significant increase in the usage of soap.

### Teachers' reflections

About 9 months after implementation of SHIP, teachers representing 20 schools participated in a workshop to evaluate the effectiveness of the initiative. For this purpose ten indicators were selected and each teacher graded change in selected indicator using a scale graduate from 1 to 5 to represent the situation before and after SHIP. The results of the evaluation for the selected indicators are shown in Table 1. As can be seen from the table children's cleanliness increased from 2 to 4 giving 100% improvement. The overall improvement came out to be 76 % including 33 % increase in children attendance. However, it should be noted that results presented in table are based on subjective judgement of teachers and therefore shouldn't be interpreted in absolute terms. A teacher expressing his feeling about impact of SHIP said, "*now children are stopping their parents going to traditional healers for preventing diseases by explaining how diseases are spread in the villages*". It is also interesting to note officials from education departments (other than school teachers) also expressed their satisfaction with the initiative. "*we have been working with this school for many years, we hadn't seen such a rapid change in children's practices*", said an official after attending SHIP session.

### Unanticipated impact

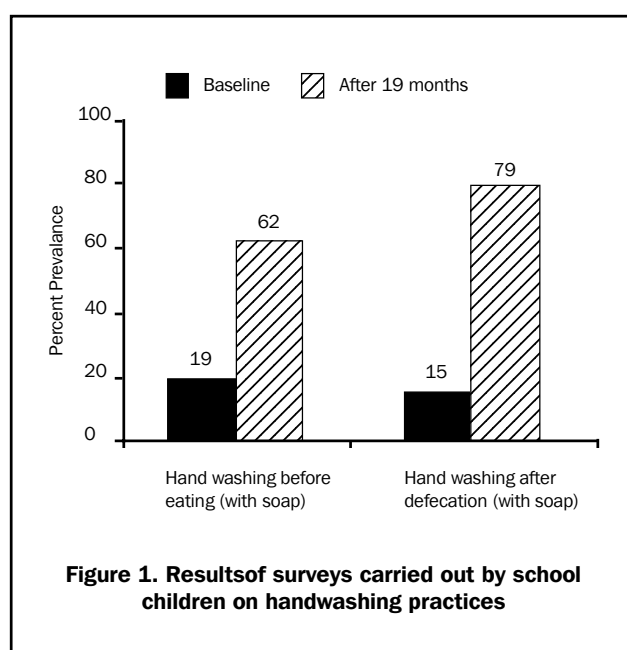
WASEP as well as teachers in schools realized benefits resulting from SHIP that were not initially planned for. These benefits included increase in children's confidence to express their views and share their feeling through the use of dramas, role playing, and songs; expression of creativity through the use of non-traditional teaching methods such as posters and art; development of skills for data collection and analysis from the use of homework assignments and exposure of teachers to alternate methods to engage children in the learning process.

### Overall impact

WASEP through an integrated approach (i.e., water, sanitation, hygiene education both in communities and schools) managed to significantly improve hygiene status and reduce diarrhoeal incidence by more than 58 %. However, it is hard to attribute of how much impact was received due to children involvement.

### Issues and challenges

Significant impact has been achieved as a result of SHIP initiative, WASEP faces a lot of issues and challenges including (1) sustainability of SHIP initiative; (2) barrier in traditional teaching systems; (3) inability to cope with high



**Table 2. Teachers' evaluation of the impact of SHIP**

Selected Indicators to measure effectiveness of SHIP	Situation Before SHIP	Situation since SHIP	% change
1. Children's cleanliness	2	4	100
2. Village environment cleanliness	2	3	50
3. School environment cleanliness	2	4	100
4. Proper use of latrine	2	3	50
5. Handwashing	2	4	100
6. Links with community	1	3	200
7. Childrens' interest	2	3	50
8. School attendance	3	4	33
9. Change in health behaviour of families	2	3	50
10. Change in health behaviours of staff	3	4	33
<b>Overall Change</b>			<b>76</b>

demand; (4) lack of coordination among different stakeholders; and (5) socio-economic hurdles.

Due to resource constraints WASEP usually continues SHIP activities in partner schools for a maximum two years. Initially, it was thought schoolteachers would be able to take over SHIP activities after withdrawal of WASEP. Follow up visits to some schools suggest that teachers are more active in promoting and sustaining healthier behaviours but due to lack of training, and communication support materials are not following the systematic procedure to teach a topic to involve children in the process rather they are using traditional approaches. Unfortunately, teachers generally in the northern Pakistan are more accustomed to traditional teaching methods and affecting changes in teaching methodology and government and private education policy is beyond the scope of WASEP.

In order to improve, WASEP has planned to carry out training, in its 2<sup>nd</sup> phase, for teachers in collaboration with other stakeholders and will make sure that each school gets communication materials and appropriate manual. Due to success of SHIP, demand of initiating SHIP activities in schools in non-partner villages (i.e., non-WASEP villages) is also growing.

Finally there are certain socio-economic hurdles for adaptation of certain behaviours: e.g., young children from playing bare feet in dirty lands if there are no other safe places for them to play around; they cannot wash their hands with soap due to restrictive family budgets. In one of the school during SHIP session, it was observed that a girl in Class V kept her newly bought shoes on her lap, and removed dust on it by her bare hands even after attending all SHIP sessions. But it shows how the economic conditions affect hygiene behaviour as it may be possible that leather shoe was purchased for this child for the first time

in her life and therefore she wanted to preserve its newness. Similarly, at beginning of SHIP activities, there were no water tap and latrines in schools, and attempt to reduce open defecation was not fully successful unless facilities were built as a result of WASEP initiative showing that both hardware and software are equally important for changing behaviour and for impact.

## Conclusions

Significant impact in health and hygiene status was achieved by involving children in the process of behavioural change at school and community levels. The Child to Child (CtC) approach proved to be very effective in providing opportunities to children to use their inherent knowledge and skills in a way they wanted. This created a great interest among children to participate in all activities. In order to make the process sustainable, there is a serious need to include health topics in curriculum (i.e., textbooks) based on CtC approach, building capacities of teachers, and taking joint efforts by all stakeholders.

## References

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