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To cite this article: Venkatraman Chandra-Mouli, Marina Plesons, Alka Barua, Aparajita Gogoi, Manju Katoch, Mohammed Ziauddin, Rita Mishra, Vinita Nathani & Anand Sinha (2018) What Did It Take to Scale Up and Sustain Udaan, a School-Based Adolescent Education Program in Jharkhand, India?, American Journal of Sexuality Education, 13:2, 147-169, DOI: [10.1080/15546128.2018.1438949](https://doi.org/10.1080/15546128.2018.1438949)

To link to this article: <https://doi.org/10.1080/15546128.2018.1438949>



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Published online: 30 Apr 2018.



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What Did It Take to Scale Up and Sustain Udaan, a School-Based Adolescent Education Program in Jharkhand, India?

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ABSTRACT

Since 2006, Udaan—a school-based adolescent education program in Jharkhand, India—was the only at-scale state-run program in the country. To determine factors that contributed to Udaan's scale-up and longevity, this study drew information from programmatic reports and interviews with the Centre for Catalyzing Change staff. Key factors for Udaan's success included an enabling policy environment, a willing government that supported and operationalized the program, a knowledgeable and committed NGO partner, sustained funding, and a commitment to constant improvement through evaluation. Udaan provides an example of a well-designed, implemented, and evaluated school-based adolescent health program that has been operating at scale over a sustained period. Other programs in India and elsewhere can benefit from learning from Udaan's experience.

KEYWORDS

Social determinants of health; adolescent health; sexuality education

Introduction

Udaan, which means to soar in flight in Hindi, is a school-based adolescent education program (AEP) in Jharkhand, India, that has been scaled-up and sustained. It is one of the largest interventions of its kind in India, was the only at-scale state-run program in the country during the documented time period, has been recognized by national and state governments as a model program for replication in other states, and served as the model for programs in other states (NACO, 2008).

Well-designed and well-implemented school-based AEPs hold promise in promoting healthy knowledge, attitudes, and behaviors for in-school adolescents (UNESCO, 2018). Upon entering adolescence, girls and boys experience numerous physical, cognitive, and emotional changes. They are entrusted, and sometimes

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burdened, with new social and cultural expectations, which often differ for girls and boys. Their relationships with parents and peers evolve as they transition from being children to adults. Some adolescents move through these formative years smoothly and can set positive trajectories for their health, social, and economic well-being in adulthood. Others face challenges and prescriptive and/or restrictive expectations that limit their ability to thrive. Regardless, these changes require navigation, and all adolescents need support and guidance on topics ranging from their sexual and reproductive health (SRH) to gender and relationships to peer pressure. To date, however, there are no published reports on sustained scale-up of school-based sexuality education programs in India or elsewhere in Southeast Asia except for Thailand (UNESCO, 2014). Furthermore, compared to the strong evidence base in support of comprehensive sexuality education (CSE) in the research context, UNESCO has stated, “there is less clarity about how to implement [CSE] and how to scale [it] up in diverse contexts” (UNESCO, 2014).

Compared to many AEPs that have not been scaled-up or sustained, Udaan’s implementation by the Government of Jharkhand (GoJ), with technical support from the Centre for Catalyzing Change [(C3), previously called CEDPA], has achieved considerable success. Documenting its experience will add to a growing, although still limited, body of evidence on strategies for effectively managing scale-up of AEPs. To analyze the experience of Udaan, this paper intends to answer the following two questions:

- (1) How was Udaan conceived and how did it evolve into a state-wide program?
- (2) What were the factors that helped or hindered the sustained scale-up of Udaan?

Methods

Data collection

This paper was prepared through careful review of reports and documents related to Udaan’s ideation phase, conception, development, phased implementation, and periodic evaluations. This research was complemented by interviews with key C3 staff, who were directly involved with provision of technical support for Udaan at state, district, and school levels. Information on adolescent education policies and programs was sourced from government websites, policy documents, program guidelines, and peer-reviewed literature. Data on health indicators was obtained from national surveys and from studies on adolescent education and health in India and Jharkhand state, specifically.

Analytical framework

The scale-up process and management was analyzed using the WHO-ExpandNet Framework (Fig. 1). This framework was designed to aid program managers,

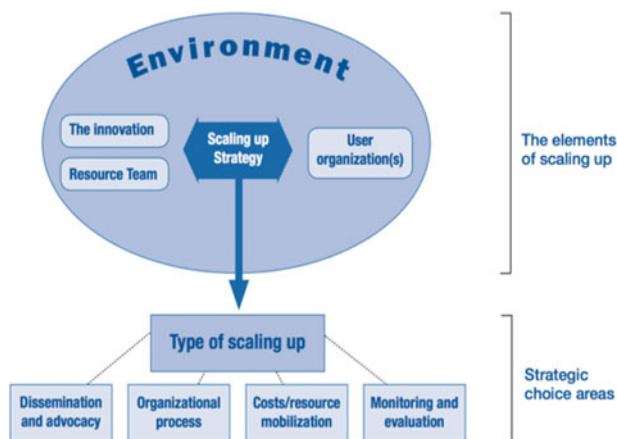


Figure 1. WHO ExpandNet framework (WHO, 2010).

researchers, and technical support agencies in planning and managing the scale-up process, especially related to SRH interventions. It defines scale up as “deliberate efforts to increase the impact of innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and program development on a lasting basis” (WHO, 2010).

What was taught?	<ul style="list-style-type: none"> • Life skills-based education
With what objective?	<ul style="list-style-type: none"> • To promote adolescent development and establish a cadre of healthy and empowered young people (10-24) through evidence-based education
With what curriculum?	<ul style="list-style-type: none"> • 13 module participatory curriculum on health and social development • Topics include: life skills; goal-setting; growing up; friendship; values; peer pressure; gender, sexual harassment/sex-related violence; pregnancy in adolescents/adolescence to adulthood; marriage and parenthood; reproductive tract infections, sexually transmitted infections (STIs), and HIV/AIDS; substance abuse; values of harmony; and moving ahead
By whom?	<ul style="list-style-type: none"> • Nodal teachers from within the school system trained by a cadre of master trainers
In what context?	<ul style="list-style-type: none"> • School-based "camp" mode and "regular" academic mode approaches, integrated into the academic time-table

Figure 2. Description of the Udaan innovation.

Results

The Innovation

Udaan is a school-based AEP that uses life skills-based education (LSBE) to promote healthy adolescent development. It was built from an existing School AIDS Education Program (SAEP), which was primarily focused on HIV prevention. Udaan's 13 module curriculum covers life skills; goal-setting; growing up; friendship; values; peer pressure; gender, sexual harassment, and sex-related violence; pregnancy in adolescents and adolescence to adulthood; marriage and parenthood; reproductive tract infections, sexually transmitted infections (STIs), and HIV/AIDS; substance abuse; values of harmony; and moving ahead (Bhat, Rajaraman, Nathani, & Gogoi, 2015). Its teaching methodology uses participatory tools, such as games, stories, case studies, and quizzes, to foster multidirectional learning. It was originally developed for secondary schools but was later adapted and expanded for implementation in middle schools. Udaan is delivered to students by nodal teachers (NTs), who are trained by a cadre of master trainers (MTs).

Two delivery models were used to implement Udaan in schools. First, to meet its commitment to initiate activities in schools in the first year of implementation despite delays in the development process, the GoJ used a "camp" mode approach, wherein students completed the curriculum in 3–4 weeks after their final exams. In subsequent years the curriculum was delivered through a regular "academic year" mode approach, wherein students participated in weekly sessions throughout the school year. The Department of Education (DoE) institutionalized the program by formally including it in the school timetable, with a dedicated period for classes IX and XI, and later classes VI, VII, and VIII.

Resource organizations

India's Ministry of Human Resource Development had implemented initiatives for the healthy development of young people since the 1980s (Fig. 3). It oversees state

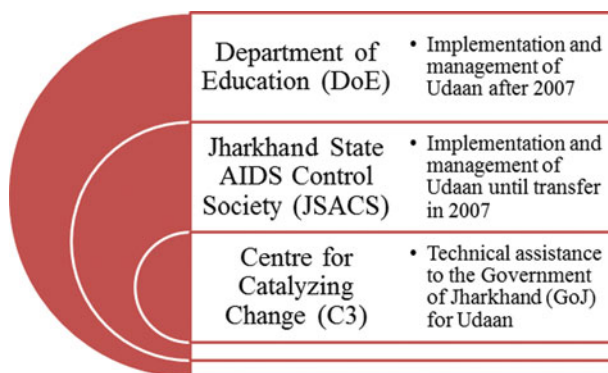


Figure 3. Resource organizations and their roles.

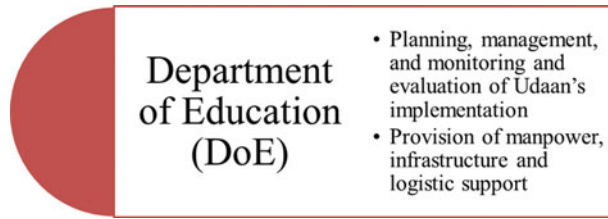


Figure 4. User organization and its roles.

level Departments of Human Resource Development (DHRD), which house state level DoEs. Since July 2007 Jharkhand's DoE has been responsible for Udaan's implementation and management.

The Jharkhand State AIDS Control Society (JSACS) was centrally involved in the implementation and management of Jharkhand's original SAEP. In 2006 JSACS engaged C3 to strengthen Udaan across the state and continued to manage its implementation until the coordinating responsibility was transferred to the DoE in 2007.

C3, a pioneer in working with adolescents on LSBE in India, had piloted, refined, and implemented a full portfolio of youth programs for both in-school and out-of-school adolescents in the previous three decades ([Centre for Catalyzing Change, no date](#)). Since 1987, it had implemented the Better Life Options Program, which combined elements of Family Life Education, life skills, vocational training, and health services. Additionally, it had experience in designing needs-based, culturally-sensitive curricula and conducting advocacy to mainstream innovative programs within government systems. Based on this track record, the GoJ engaged C3 to provide technical assistance to the DoE. It provided technical inputs to design the curriculum, built the capacities of MTs and NTs, and developed teaching-learning materials and a Management Information System (MIS). Additionally, it provided oversight for Udaan by monitoring school-based implementation.

User organization

The DHRD, which houses the DoE, has extensive experience in implementing education programs for adolescents and had recently aided in the implementation of the SAEP ([Fig. 4](#)). The DoE was responsible for planning, managing, and supervising the implementation of routine school education programs in the state. With technical support from C3, the DoE integrated Udaan into the education system by providing it with the institutional manpower, infrastructure, and logistic capabilities necessary to implement, monitor, and report on Udaan.

Policy and social environment

Udaan's implementation and scale-up processes were aided by a supportive and enabling policy environment at both the national and state levels. Guided by international agreements and India's Constitution, the national government has committed

itself to protecting the rights of adolescents through many broad but related policies, including the 1986 National Policy on Education (modified in 1992), the 2000 National Population Policy, the 2002 National AIDS Prevention and Control Policy, the 2002 National Health Policy, and the 2014 National Youth Policy. Jharkhand, which became a state in 2000, was one of the first states in India to develop a specific youth policy, which was issued in 2007. This policy aims to empower young people, promote adolescents' reproductive health and rights, and support the implementation of AEPs for in-school and out-of-school adolescents. It also advocates for multisectoral action with a focus on improving the accessibility of youth-friendly services and building the capacity of service providers (Jejeebhoy, 2009).

Jharkhand's social and demographic environment demonstrated a pressing need to improve SRH education. Jharkhand has a large population of young people, with 8.3 million people, or 31% of the state's population, ages 10–24 (Jejeebhoy, 2009). High levels of physical and sexual violence and gender inequality, coupled with limited awareness of puberty and SRH, impact the health and well-being of adolescent girls and boys. Jharkhand's adolescent population's vulnerabilities are exacerbated by high levels of poverty (54% of people live below the poverty line), low levels of educational attainment and literacy (79% and 56% of males and females, respectively, are literate), high rates of early marriage (over 60% of women ages 20–24 were married by age 18), and low access to and use of SRH services including contraception and pregnancy-related care (only 37% of pregnant women received at least three antenatal care visits at last birth), compared to national levels (Bhat, Rajaraman, Nathani, & Gogoi, 2015). This combination of an enabling policy environment and pressing socioeconomic and demographic needs provided sound rationale for initiation and implementation of Udaan.

Planning—Vertical scale-up

Vertical scale-up (i.e., integration into policies and strategies and assignment of budgets and responsibilities) of Udaan was partially accomplished at the outset, as the original SAEP was already an integral part of national and state level policies. This provision was critical to Udaan's success, as it had both directives and sustained support from the national government.

Additionally, State AIDS Control Societies had experienced difficulties implementing the SAEP, as they did not have jurisdiction over education systems. Therefore, to create ownership of the program by DoEs and promote sustainability, the national government ordered the transfer of the responsibility for SAEP implementation from State AIDS Control Societies to DoEs in 2007. This transfer of responsibility was a major step in securing strong and sustained government commitment for SAEPs, including Udaan.

Planning—Horizontal scale-up

Udaan was established through a true public-private partnership between JSACS, the DoE, and C3. While the direction and management of Udaan came from the

GoJ, C3 provided critical technical support for program design, implementation, and monitoring and evaluation. C3 set up a program office in Ranchi, Jharkhand's capital, with one program coordinator, four program officers, and one program and administrative assistant. This presence at the state level enabled the team to work closely with JSACS and the DoE to implement Udaan in all 24 districts across the state.

Horizontal scale-up was planned through a cascade training approach using MTs and NTs, as described below. C3 incorporated quality safeguards in the cascade training: teaching-learning materials were developed and C3 staff were physically present at the residential training and retraining sessions to provide technical inputs and to ensure adherence to the duration, content, and processes. Additionally, sensitization of District Education Officers (DEO) and school principals created an enabling environment for Udaan. The institutionalization of the program within the education system facilitated its expansion to more schools in each subsequent phase of implementation. C3 monitored ongoing implementation as Udaan was scaled-up through the integration of a MIS system to promote quality and accountability.

Udaan: The decade long journey

In 2003 India issued a national directive for school-based SRH education programs in all secondary schools, prompted by the urgent need for a response to HIV. The original SAEP, initiated in 2003 and implemented in 850 schools across the state by 2006, focused specifically on HIV-prevention measures, with less emphasis on other aspects of health and development. Recognizing this gap, the GoJ issued one of the first state-specific youth health policies in India. In 2006, JSACS undertook the development of Udaan in order to expand the HIV-specific SAEP and achieve the broader aim of establishing a cadre of healthy and empowered young people (10–24 years of age) through evidence-based LSBE (Fig. 2) (NACO, 2005). The SAEP Program Director invited C3 to provide technical support for the development and implementation of the AEP and build the capacities of district-level DoE officials. C3 received a grant from the David and Lucile Packard Foundation for this work in April 2006. While the grant was originally intended to support technical assistance for Udaan's roll-out in one district, it was later expanded to include all districts in the state in response to a request from the GoJ.

Phase 1 (April 2006–March 2007)—Conceiving Udaan and reaching an agreement for roll-out

During the first grant phase (Fig. 5), in 2006, a Core Committee was established in Ranchi with representatives from JSACS, the DoE, and C3, along with MTs, NTs, and secondary students of classes IX and XI. C3 conducted formative research to inform the development of Udaan, including a review of the existing SAEP and its then-current *Learning for Life* curriculum, which was developed by India's National Council on Education Research and Training, the National AIDS Control Organization (NACO), UNICEF, and UNESCO in 2003. C3 also conducted a needs assessment for the AEP with MTs, NTs, principals, and secondary school

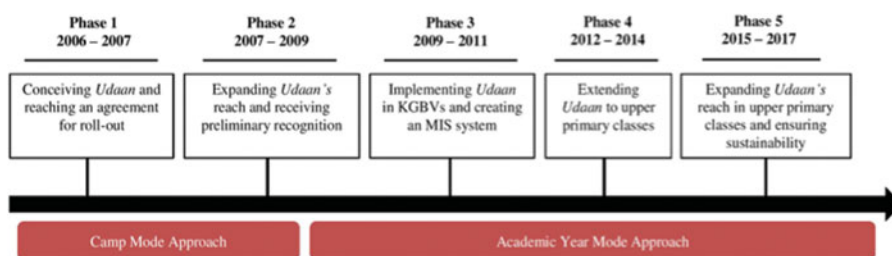


Figure 5. Timeline of the Udaan scale-up process.

students through individual interviews and focus group discussions in nine schools in Ranchi district (Fig. 6).

Based on this review and a curriculum adaptation workshop, C3 adapted the *Learning for Life* curriculum to develop Udaan's comprehensive and age-appropriate curriculum. The curriculum underwent multiple rounds of review with the DoE and was tested in three schools in Ranchi district, reviewed by experts and stakeholders, translated into Hindi, and finalized upon approval by JSACS and DoE. Two 20-hour training packages and a training manual for the curriculum, *Udaan: Towards a Better Future: A Training Manual for Nodal Teachers*, were developed, tested by C3, formally approved by the DoE, and released by the Chief Minister of Jharkhand on World AIDS Day, 2006. Udaan's implementation operated through

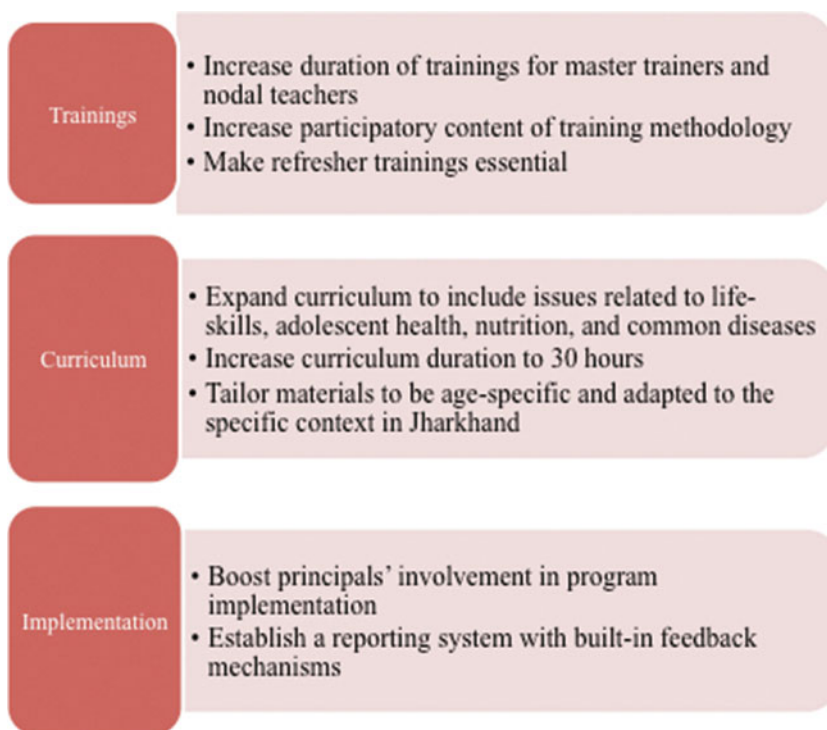


Figure 6. Key recommendations from the needs assessment of the existing SAEP to inform development of Udaan.

a cascade training approach. In Phase 1, 444 schools were identified for implementation in classes IX and XI. District-level stakeholders, including DEOs, in all then 22 districts and 444 principals were oriented through one-day district level meetings. Forty-eight private MTs, comprising NGO representatives and independent consultants, were selected through a rigorous screening process with criteria established by the DoE and JSACS. MTs were trained to conduct district-level training of NTs through a five-day, 50-hour residential training workshop led by C3 in groups of 18–20 participants, which included several rounds of practice sessions to develop skills. Each school principal then identified two teachers as NTs, who were trained by MTs and technical experts from C3 through four-day residential training workshops, in groups of 25–30 participants. In this manner, 757 NTs (613 men and 144 women) from within 444 secondary schools were trained to implement Udaan. These trainings were coordinated at the district level with active participation and support from DEOs.

As described above, implementation of Udaan in schools was originally intended to begin in 2006. However, by the time the materials development and training processes were completed in February 2007, class IX and XI students were preparing for their annual exams. JSACS was, nonetheless, committed to delivering the benefits of Udaan to current students and decided to use a “camp” mode approach, wherein students completed the entire curriculum in 3–4 weeks in May–June 2007 through several sessions per week after their final exams. This “camp” mode approach reached approximately 30,000 students.

At the end of the first grant phase, the responsibility for implementing Udaan was transferred from JSACS to the DoE. Additionally, an evaluation was conducted to assess Udaan’s implementation, using a quasi-experimental post-intervention study design (Table 1). In August 2007, a mid-term sharing meeting was organized in Ranchi with JSACS and the DoE to disseminate results from the evaluation and share the progress and lessons learned in Udaan. It was attended by over 200 participants, including DEOs, a regional deputy director, deputy directors, NGO representatives, media personnel, principals, MTs, NTs, and students.

Phase 2 (July 2007–June 2009)—Expanding Udaan’s reach and receiving preliminary recognition

At the start of the second phase, the DoE requested C3’s technical assistance for an additional three years to expand the program to more schools across the state. Specifically, C3 was tasked with developing the capacities of district-level DoE officials to effectively implement, monitor, and sustain Udaan in a total of 1,206 schools. Demonstrating its ownership of the program, the DHRD allocated funds for Udaan from the state’s core education budget for two financial years. Additionally, Udaan was integrated into the agenda of the DEOs’ monthly meetings, and officers from the DEOs’ office were formally designated as district nodal officers for Udaan.

Selection criteria for MTs and NTs were expanded and formalized. In particular, MTs were to be exclusively selected from within the education system to reduce costs

**Table 1.** Impact of Udaan on students' knowledge, attitudes, and practices.

	Evaluation 1 Aug 2007 (CEDPA, 2007)	Evaluation 2 Oct 2009 (CEDPA, 2009a)	Evaluation 3 Nov 2009 (CEDPA, 2009b)	Evaluation 4 Jul 2010 (CEDPA, 2010b)	Evaluation 5 Oct 2010 (CEDPA, 2010a)
Aim	To assess the impact on students' life skills and reproductive health knowledge, attitudes, and behaviour	To assess the levels of knowledge, attitudes, perceptions, and intentions and programme quality/effectiveness	To assess students' knowledge, attitudes, perceptions, and intentions and to evaluate the programme quality and effectiveness.	To assess the implementation and institutionalization of regular MIS reporting	To assess students' knowledge, attitudes, perceptions, and intentions of students
Implementation Approach	Camp Mode 2006–2007	Camp Mode 2007–2008	Academic Year Mode 2008–2009	Academic Year Mode 2009–2010	Academic Year Mode 2010–2011
Quantitative Data Collection	Quasi-experimental post-intervention impact evaluation	Post-intervention impact evaluation	Quasi-experimental post-intervention impact evaluation	Pre-post intervention impact evaluation	Pre-post intervention impact evaluation
Sample	Classes IX and XI Total: 6,498 students - Intervention group (2,666) - Control group (3,832)	Classes X and XII Total: 2,535 students	Classes IX and XI Total: 4,023 students - Intervention group (2,234) - Control group (1,789)	Classes IX and XI Total: 4,371 students	Classes IX and XI Total: 2,580 students
Qualitative Data Collection	20 FGDs with Class X and XII students	20 FGDs with Class 10 and 12 students	20 FGDs with Class IX and XI students	20 FGDs with 285 Class IX and XI students	FGDs with 285 Class IX and XI students
Sample	125 in-depth interviews (IDIs) with DEOs, principals, MTs, NTs	45 IDIs with DEOs, principals, MTs, NTs	63 IDIs with DEOs, principals, MTs, NTs	438 IDIs with DEOs, Udaan Mitras, district gender coordinators, principals, NTs	216 IDIs with DEOs, Udaan Mitras, DGCs/ADPOs, principals, NTs
Key Findings from Quantitative Research	<ul style="list-style-type: none"> - Increase in knowledge of puberty and maturation, HIV/AIDS, gender equity - Little influence on attitudes or intentions - Class XI students showed greater knowledge on adolescence 	<ul style="list-style-type: none"> - More than half of all students demonstrated self-efficacy and reported positive peer pressure - The majority of students could identify characteristics of puberty, HIV/AIDS - Low knowledge on menstruation, pregnancy, masturbation 	<ul style="list-style-type: none"> - Increase in knowledge of menstruation, HIV/AIDS, and positive attitudes towards people living with HIV/AIDS - No influence on self-efficacy, leadership skills, sexual harassment - Class IX showed greater knowledge attainment on HIV/AIDS and positive attitudes towards people living with HIV/AIDS 	<ul style="list-style-type: none"> - MIS implemented in all 1067 non-residential schools with Udaan - 34.5% of schools submitted quarterly MIS reports - 2.4% of schools submitted all three quarterly MIS reports - 27% schools formed Udaan Clubs 	<ul style="list-style-type: none"> - Increase in knowledge of puberty, ASRH, HIV/AIDS, gender equity - Class XI students showed increase in intention to study until graduation or higher - Class IX KGBV students showed increase in self-efficacy - No influence on positive peer pressure - Low overall knowledge on ASRH, HIV/AIDS

Key Barriers Identified through Qualitative Research	<ul style="list-style-type: none">- High staff turnover in government departments- Need for MIS- Discomfort and lack of skills among NTs- Lack of female NTs- Need for parental sensitization	<ul style="list-style-type: none">- Need for incorporation of Udaan into regular school timetable- Need for NT selection criteria- Discomfort of NTs- Lack of female NTs	<ul style="list-style-type: none">- Low attendance rates for three or more topics- Need for incorporation of Udaan into regular school timetable- Need for MIS, IEC materials, NT/MT selection criteria- Discomfort of NTs- Lack of female NTs	<p>For not completing sessions:</p> <ul style="list-style-type: none">- Unscheduled holidays- Heavy rains/heat/ cold- NTs on leave- Frequent strikes- For programme success, need:- Incorporation of Udaan into regular school timetable- Further trainings on MIS and Udaan- Supportive supervision mechanisms	<ul style="list-style-type: none">- Discomfort and lack of skills among NTs- Lack of female NTs- Need for IEC materials- Need for refresher trainings for NTs and monitoring- Need for incorporation of Udaan into regular school timetable- Need for parental sensitization
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and ensure sustainability. The orientation of district-level stakeholders and principals continued, and an additional 62 MTs and 1,115 NTs were trained. Through advocacy with policy makers, the GoJ approved district-level training of NTs and compensated time-off for NTs for attending trainings during summer vacations.

The “camp” mode implementation approach was initially continued in 444 schools. The implementation strategy then formally switched to a regular “academic year” mode approach in all 1206 schools in 2008, as originally intended, wherein students participated in weekly sessions throughout the school year. During this phase, Udaan reached approximately 200,000 students in 1,206 schools across the state’s 24 districts.

In 2008 Udaan was recognized by the national government as a model AEP. The Udaan model was later replicated in other states, such as Bihar and Arunachal Pradesh. Upon request from the MoHRD, the Udaan Manual and Implementation Process Report were shared with all State Councils for Educational Research and Training (SCERT) and State AIDS Control Societies as a model for adaptation in their states. C3 also received a note of appreciation from NACO and a request from the MoHRD to review the Central Board of Secondary Education’s Life Skills Education manual.

In October and November 2009, two evaluations were conducted to assess Udaan’s implementation in both the “camp” mode and the regular “academic year” mode approaches, using post-intervention impact evaluation study designs (Table 1). Similarly to the evaluation after Phase I, the results of these evaluations were available in the public domain and were shared at mid-term sharing meetings with the JSACS and DoE.

Phase 3 (July 2009–July 2011) – Implementing Udaan in KGBVs and creating a MIS system

At the start of the third phase, the DoE requested C3’s technical support for an additional three years to expand Udaan to *Kasturba Gandhi Balika Vidyalyayas* (KGBVs; residential schools that provide educational facilities for girls belonging to scheduled castes, tribes, minority communities, and families below the poverty line). The Udaan Manual was published for KGBVs. Twenty-five MTs and 289 NTs from all KGBVs in the state, along with 24 district gender coordinators from selected KGBVs, were trained. Udaan was then implemented in all 198 KGBVs.

C3 also conducted advocacy activities with the DHRD to mainstream Udaan in *Sarva Siksha Abhiyan*, India’s flagship Universalization of Elementary Education program, and in the preservice teacher training system. As a result, Udaan’s curriculum was introduced in select Bachelor of Education (BEd) colleges. Additionally, DEOs’ clerical staff were designated as Udaan *Mitras* (point persons) to assist with Udaan’s management and coordination and were oriented alongside DEOs and MTs.

In order to ensure regular program monitoring, a MIS for quarterly reporting was developed, piloted, and finalized through a state-level workshop. The MIS was designed to be institutionalized in the education system to help managers and

administrators monitor the program at the state, district, and school levels to promote fidelity and accountability. MIS reports were distributed and collected by Udaan *Mitras* at the district-level. An evaluation conducted in July and August 2010 to assess the implementation and institutionalization of regular MIS reporting of Udaan found that although MIS was implemented in all residential schools, only 34.5% of schools submitted quarterly MIS reports and only 2.4% of schools submitted all three quarterly MIS reports (Table 1).

Additionally, C3's staff, in collaboration with the DoE, developed information, education, and communication (IEC) materials, a digital version of the Udaan Manual, a handbook for program managers, and implementation guidelines for student-led Udaan Clubs. Visibility and community sensitization for the program was promoted through new Udaan Clubs, Udaan *Mahotsavs* (festivals/fairs), and national and state-level dissemination of implementation experiences.

During this phase, refresher trainings were conducted for MTs, and Udaan reached over 471,000 students in 1,485 government secondary schools, girls' day schools, and KGBVs. A mid-course evaluation was conducted in October 2010 to assess the impact of the Udaan program on students' knowledge, attitudes, perceptions, and intentions (Table 1). Among other findings, the evaluation identified comparatively lower interest as well as attitudinal and behavioral changes among students in class X1 as compared to class IX. C3 and the DoE recognized the need to extend Udaan to students in upper primary classes (classes VI, VII, and VIII). In line with this decision, a pilot Udaan program was developed and initiated for students in upper primary classes at a private school in Ranchi.

Phase 4 (April 2012–March 2014)—Extending Udaan to upper primary classes

At the start of the fourth phase, the DoE requested C3's technical assistance for an additional two years to expand Udaan to upper primary classes. C3 conducted a needs assessment with over 800 upper primary students in six selected districts, and found that 84%, 93%, and 84% of students expressed interest in knowing more about communication and relationship building, changes during adolescence, and peer pressure, respectively. Based on these findings, C3 drafted a framework for an Udaan Manual for upper primary classes and engaged CSOs and state-level officials in two rounds of consultation processes.

An additional 525 NTs were trained, and Udaan was rolled out in selected middle schools and all residential KGBVs. The MIS was expanded to incorporate information on upper primary classes. In this phase, Udaan reached a total of 1,788 schools, which included government upper primary schools, secondary schools, girls' day schools, and KGBVs.

Phase 5 (July 2015 –June 2017)—Expanding Udaan's reach in upper primary classes and ensuring sustainability

At the start of the fifth phase, the DoE requested C3's technical assistance for an additional three years to expand the program to more upper primary schools and

ensure sustainability of Udaan. This phase focused on refresher trainings and development of evaluation indicators for upper primary classes. Additionally, through the inclusion of Udaan's curriculum in select BEd colleges, a total of 600 trainee teachers were trained to teach Udaan's curriculum.

Recognizing the achievements of Udaan thus far, the GoJ invited C3 to join the State Review Mission on Quality Education. In August 2016, Udaan was also selected by India's Ministry of Health and Family Welfare as a "Good, Replicable Practice and Innovation in Public Health Care Systems."

Managing scale-up

Organizational approaches

After the 2007 transfer of responsibility for Udaan from JSACS to the DoE, the Core Committee (described above) was responsible for planning, strategizing, implementing and reviewing progress. The DoE utilized the capacity of existing government staff by assigning responsibilities and establishing accountability mechanisms to facilitate smooth implementation. Meanwhile, C3's establishment of a project office in Ranchi allowed their staff to work closely with JSACS and the DoE to implement Udaan in all 24 districts across the state. Local staff performed the key function of interacting with DEOs and schools' leadership and ensured that key state officials were regularly informed about Udaan's progress. They also supported the development and implementation of plans and addressed problems as they arose. C3's technical expertise and ability to expedite progress within the political, social, cultural and economic context of the state were central to the scale-up success of the program.

Monitoring and evaluation

State-level performance review of Udaan was carried out on an annual basis by an external team and on a quarterly basis by the Core Committee. District-level review was carried out monthly at state level meetings with DEOs, other DoE officials, Udaan *Mitras*, and school principals. The DoE also involved district gender coordinators to monitor the program in KGBVs. C3 placed monitoring and evaluation at the forefront of its priorities and developed a dynamic school-based MIS. It trained program staff to use the MIS and provided monitoring oversight. DEOs were tasked with ensuring reporting, as they had direct oversight of the schools. Sharing meetings to review progress and plan for subsequent stages, organized by C3 at the mid-term of each implementation phase, were attended by the DoE, JSACS, DEOs, regional deputy directors, school principals, MTs, NTs, students, NGOs, and media personnel.

Four mid-course evaluations were conducted, one each in Phases 1 and 2 and two in Phase 3, and the results were used to revise strategies for subsequent phases (Table 1). In broad terms, these evaluations indicated positive effects on knowledge but little influence on attitudes or intentions. They identified key barriers such as

high staff turnover, discomfort and lack of skills among NTs the need to incorporate the curriculum into the regular school timetable, and the need for a functional MIS. The program remained dynamic as the scale-up effort progressed and used an ongoing agenda of learning to shape and reshape it. For example, in response to key findings from the evaluations, Udaan was integrated into the regular academic calendar and a MIS was developed, implemented, and revised. In a very real sense, C3 learned by doing and used this learning to shape its subsequent actions.

Resource generation

Udaan's secure and sustained funding sources were critical to ensuring that scale-up occurred. The GoJ allocated funds and provided existing infrastructure for implementation at the school level. The program was managed by preexisting government staff and carried out by public sector teaching staff. Additionally, the GoJ paid for the production and dissemination of educational materials for teachers. This provided a solid basis for sustainability. Furthermore, the Packard Foundation provided sustained financial backing, expanding from the initial grant in 2006 to a total of five phases, which enabled C3 to provide support for advocacy, curriculum development, teacher training, and monitoring and evaluation.

Advocacy and dissemination

Recognizing the importance of building understanding and support for the program, the GoJ and C3 took specific actions to increase public support for the program. They formed Udaan Clubs and organized Udaan *Mahotsavas* (festivals/fairs) in each administrative division. They also shared Udaan's implementation experiences through annual programmatic reports, evaluation reports, and presentations at conferences and workshops.

Implementation challenges

Although Udaan was implemented by the GoJ through an existing system with technical support from an organization with experience and credibility in the field, it faced some challenges in the course of its implementation. Transfers and retirement of teachers, slow recruitment, and competing staff responsibilities, such as electoral monitoring and census counting, created challenges for the availability and retention of trained NTs, with resultant delays in implementation.

A significant challenge to Udaan's implementation was the periodic backlash stemming from misunderstandings about the content of its curriculum. The DoE formally reviewed and approved the content of Udaan's curriculum to counter negative reactions from society and the media, while JSACS, the DoE, and C3 established specific plans for action if/when resistance arose. The state departments collected evidence from MTs, NTs, and students on the successes and challenges of Udaan, using assessment tools developed with C3. The value of this was demonstrated in 2007, when AEPs were suspended in 11 states because of controversy against sexuality education, especially related to fears that the curriculum was explicit, that it would corrupt young people, and that it would cause sexual experimentation. The

GoJ, however, provided a timely and appropriate response and resumed its activities with support from C3. JSACS and the DHRD issued press statements and were prepared to face questions about Udaan in the Monsoon Session of the State Legislative Assembly. Both C3 and state officials explained to media and community leaders why the program was needed. Negative reactions of this scale did not occur thereafter. While these challenges caused delays in Udaan's implementation, they also increased ownership of the program by the GoJ, which facilitated later integration of Udaan into existing operational structures.

Impact of the Udaan innovation and its scale-up strategy

Impact of the planning and management strategies on scaling-up and sustaining Udaan

The activities and strategies employed by C3 and the DoE at each level of government and society were critical in achieving the scale-up and sustainability of Udaan. These concerted actions, including advocacy, issuance of directives by government offices, development of materials, capacity building, monitoring and evaluation, and dissemination of results, contributed to key outputs and outcomes (Table 2).

Impact of Udaan on students' knowledge, attitudes, and behaviors

Over the course of Udaan's implementation, five evaluations were carried out to compare students exposed to Udaan sessions ("intervention") to students who had not been exposed ("Comparison"), examine post-session performance of students, and assess the implementation of the MIS.

The evaluations also looked at the factors associated with Udaan's effectiveness and implementation at the levels of students, teachers, schools, and communities. The results indicate that students were satisfied with topics such as life skills, adolescence, HIV, and friendship, and that exposure to Udaan improved students' knowledge, specifically related to puberty, HIV/AIDS, positive self-efficacy, and peer pressure (Table 1). However, Udaan had less influence on knowledge in other areas, such as menstruation, masturbation, and pregnancy, and the percentage of students in class X1 attending three or more sessions was low. NTs showed statistically significant improvements in knowledge and attitudes. Though MTs and NTs claimed that they found C3 training easy to do, students mentioned that some teachers were not comfortable teaching sensitive topics. Teachers confirmed this sentiment in their interviews. At the school-level, the evaluation found that most schools were completing only a few of the Udaan sessions. Key challenges reported included human resource concerns (i.e., shortage of teachers, teacher gender imbalance, and the need for annual trainings), prioritization of the regular school curriculum, and the need for additional programmatic materials. The results from the MIS assessment suggest a major gap in programmatic success, with only 34% of schools submitting quarterly MIS reports. Lastly, sensitization of parents was identified as a key requirement for the program's acceptance.

Table 2. Impact of the planning and management strategies on scaling up and sustaining Udaan.

Objective	Inputs/Activities	Outputs/Outcomes
State Level: Create an enabling policy environment	Advocacy with state government for support to Udaan in policies	<ul style="list-style-type: none"> • Udaan officially launched by Chief Minister – Dec. 2006 • DoE approved Udaan manual – Jan. 2007 • DoE approved: <ul style="list-style-type: none"> - District-level training and compensatory time off for NTs during summer vacations – 2007–08 - Udaan roll out in all 203 KGBVs – Sept. 2009 - Udaan roll out in 303 middle schools – Nov. 2013 - Udaan clubs roll out in all Udaan schools – Aug. 2009 - State-specific implementation calendar for Udaan – May 2009 • State Education Support Mission (SESM) teams reviewed Udaan in 24 districts – Aug. 2015 • JSACS allocated Rs. 598K (2007-08; USD15K), 1.2M (2008-09; USD26K), and 900K (2016-17; USD13K) and printed 500 copies of the Udaan manual for distribution amongst NTs in KGBVs • DoE allocated Rupees 1M (2009-10; USD21K), 1M (2010-11; USD22K) and paid for training of 306 NTs from 203 KGBVs (Rupees 500K; USD11K) • Core Committee established – Nov. 2007 • Director of Secondary Education, SCERT designated responsible for all administrative directives on AEPs – Nov. 2007 • One Jharkhand Education Project Council staff appointed to coordinate Udaan implementation in KGBVs/middle schools – Jun. 2010 • DoE approved: <ul style="list-style-type: none"> - designation of DEOs (all districts) as District and State Nodal Officers – Nov. 2007 - training of existing teachers as MTs – Oct. 2007 - designation of one staff per DEO as Udaan <i>Mitra</i> – Aug. 2009 • State-specific curriculum (Nov. 2007), IEC, and reference materials developed with key stakeholders from DoE, NGOs/CSOs – May 2011 • State-specific MIS approved by DoE – Nov. 2009 • State directive issued for: <ul style="list-style-type: none"> - quarterly MIS and quarterly implementation reports – Nov. 2009 - inclusion of Udaan in state monitoring/quality guidelines for KGBVs – Apr. 2014 • 87 secondary school teachers and 18 middle school teachers trained as MTs – 2006–2014 • 600 teachers trained in B.Ed. colleges – Oct. 2009–Jun. 2017 • DoE chaired all state-level events and dissemination meetings – Nov. 2007 – Jun. 2017 • State government and NACO shared Udaan content/process documents with SCERTs and SACS – Aug. 2008
	Advocacy with state government for financial support to Udaan	
	Advocacy with state government to designate dedicated staff for Udaan	
	Design of Udaan	
	Design of Udaan M&E framework in alignment with state MIS	
	Capacity building	
	Dissemination of learnings	

(Continued on next page)

Table 2. Continued

Objective	Inputs/Activities	Outputs/Outcomes
District Level: Build the capacities of DoE officials	Capacity building of district level officials Directives to DEOs for including Udaan as part of monthly meeting Capacity building of Udaan implementers	<ul style="list-style-type: none"> • All DEOs oriented on Udaan – Sept. 2006–2010 • All Udaan <i>Mitras</i> trained to assist DEOs – Sept. 2009–2010 • Udaan included in: <ul style="list-style-type: none"> - agenda for monthly DEO Principals' meetings – Nov. 2009 - administrative review of schools – Nov. 2009 - routine school inspection visits – Nov. 2009 • All schools had trained/oriented principals – Sept. 2006–2014 • All schools had trained NTs – Jan. 2007–2014 • All districts have trained/oriented district gender coordinators – Jun. 2010 – Jun. 2017
Block level: Build the capacities of DoE officials	Capacity building of Block level officials	<ul style="list-style-type: none"> • Block Education and Extension Officers in 3 districts appointed to monitor Udaan implementation in middle schools – Jul. 2014
School Level: Implement Udaan in schools	Udaan implementation Udaan monitoring	<ul style="list-style-type: none"> • 1,485 government secondary schools implemented Udaan as part of academic calendar – May 2009 • All school principals/KGBV wardens supervised Udaan – Aug. 2009 • 34.5% government schools submitted quarterly online reporting • 2.4% government schools submitted all three quarterly online reports
Student Level: Provide life skills and ASRH education through Udaan	Attendance Changes in knowledge	<ul style="list-style-type: none"> • 300,000 students reached through Udaan • 49.6% of students reached through Udaan sessions are female • 62% of students aware of ≥ 3 pubertal changes • 35% of students aware of possibility of a girl becoming pregnant after first intercourse • 69% of students aware of male condoms • 73% of students aware of oral contraceptives • 44% of students aware of ≥ 2 descriptions of sexual harassment • 45% of students aware of ≥ 3 ways to prevent HIV transmission

Changes in attitudes

- Education:
 - 57% of students intend to study until graduation
 - 34% of students make their own decisions about education
 - Communication with parents:
 - 79% of students reported that they were involved in decisions about life partner
 - Life skills:
 - 58% of students report positive self-efficacy
 - 50% of students with high leadership skills
 - Gender:
 - 70% of students believe that household work should be shared
 - 60% of students believe that reproductive decisions should be joint
 - 35% of students find no justification for gender-based violence
 - People Living with HIV/AIDS:
 - 57% of students accept positive attitudes towards PLWHA
 - Peer Pressure:
 - 51% of students perceive negative peer pressure by peers
 - Substance abuse:
 - 72–78% of students reported that they do not use any substances
-

Many interpretations emerged from these evaluations. First, given the short duration of implementation for the 3–4 week “camp” mode approach, it is not surprising that most knowledge attainment in the first two evaluations was modest and influence on attitudes was limited. Second, girls appeared to gain more knowledge of certain topics than boys, suggesting that future iterations could consider gender norms, attitudes, and socialization in the curriculum planning to ensure both boys and girls receive messages that resonate effectively. Third, any perceived discomfort and lack of skills among NTs was a barrier to achieving impact, as evidenced by the absence of substantial changes to students’ knowledge on more sensitive topics, like masturbation and early pregnancy. Four of the evaluations identified the need for female teachers for girls’ education on adolescent SRH. However, this viewpoint was countered by experiences of other schools, which suggested that the sex of teachers matters less than the trust between teachers and students and the style and comfort of the teacher in engaging with these themes.

Discussion

The Udaan program provides an opportunity to examine how a school-based AEP was conceived, determine what strategies helped it to evolve into a state-wide program, and identify factors that helped or hindered its sustained scale-up, especially in an environment where many similar programs have failed to do so. Udaan was conceived in a window of opportunity, where school-based AEPs had approval from the national government, the GoJ was ready and willing to act on this directive and adapt a preexisting HIV program to a broader curriculum, the DoE was able to engage a NGO with experience in school-based AEPs, and there was available funding to support this partnership from the Packard Foundation.

The sustained scale-up of Udaan was helped by five factors: an enabling policy environment, a willing government that supported and operationalised the program, a knowledgeable and committed NGO partner, sustained funding, and a commitment to constant improvement through evaluation. Meanwhile, the success of the program was hindered by shortage of teachers and competing commitments, teacher capacity limitations primarily related to discomfort around certain curriculum topics, and lack of linkages to service provision. Additionally, Udaan’s rapid expansion stretched the GoJ and C3’s capacity to monitor the activities undertaken. However, Udaan succeeded in training more than 2,686 NTs since its inception and reaching over 900,000 students in more than 1700 schools throughout Jharkhand state.

A key message that emanates from these findings is that if school-based AEPs are to be scaled-up and sustained, they must first be put on the political agenda and continuously supported. As Udaan progressed, the GoJ’s commitment to addressing the needs of adolescents and C3’s commitment to operationalizing the program state-wide kept relevant stakeholders engaged and accountable. The program was thus able to move forward effectively, despite the expected ups and downs of program implementation. Furthermore, programs must be supported by responsive funding mechanisms. The Packard Foundation’s willingness to continue funding

Udaan and its support for mid-course adaptations to the program were critical to its sustained scale-up success.

While India has a national sexuality education program, it has been hindered by backlash and controversy with regards to both content and implementation (Ismail, Shajahan, Sathyanarayana-Rao, & Wylie, 2015; Khubchandani, Clark, & Kumar, 2014). In six states—Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, and Karnataka—provision of school-based sexuality education has been banned. (Ismail, Shajahan, Sathyanarayana-Rao, & Wylie, 2015) On the other hand, the public-private partnership that led to Udaan's scale-up has underpinned successful scale-up in other countries as well. In some countries like Argentina, national governments have led the adolescent SRH programming effort (Faur, 2016). They have shown the ability and will to move the agenda forward, with staff members who either had experience working with young people before they became planners and managers, or who developed skills as managers through active engagement and learning over time. In other countries like Estonia and Nigeria, consortia of organizations and UN agencies played the leadership role, while the lead government ministries put in place policies and strategies that enabled action (Huaynoca, Chandra-Mouli, Yaqub, & Denno, 2013; Kempers, Ketting, Chandra-Mouli, & Raudsepp, 2015). In both countries, consortia of organizations and UN agencies advocated for and supported the development of sound policies and strategies. With the support of committed funding bodies, they took on the challenge of co-leading the translation of policy into practice. They supported pilot projects and showed that implementation was feasible, potentially effective, and could be undertaken without backlash from the community. They developed work plans and budgets for scaling-up and raised resources to provide support for implementation, monitoring and evaluation, and documentation. They advocated loudly or quietly, as required, and they stayed the course. In doing so, they helped build the credibility, commitment, comfort, and capacity of their government counterparts.

The primary limitation of this evaluation is the reliance on reports, evaluations, and key informant interviews from the program itself. It did not use external documentation or interview key informants external to C3. However, this participatory documentation and evaluation allowed the paper to ascertain a level of detail and analysis that may not have been possible without the involvement of program staff from the GoJ and C3.

Moving forward, Udaan will need to consolidate its efforts to remain sustainable state-wide and to continue to learn from its work. It will need to safeguard quality in terms of teacher training, while continuing to extend its reach. Other programs in India and elsewhere can learn from Udaan's experience and should commit themselves to a similar level of monitoring and evaluation and documentation, so that the body of evidence on implementation strategies for the sustained scale-up of AEPs may continue to develop. Key recommendations emerging from Udaan's experience include placing sexuality education on national and/or state agendas, planning scale up from the start, managing scale up effectively and efficiently, building support while anticipating and addressing resistance, promoting and safeguarding sustainability, including through sustained funding, and understanding potential barriers.

Glossary of acronyms

AEP	Adolescent education program
BEd	Bachelor of Education
C3	Centre for Catalyzing Change, previously known as CEDPA
CEDPA	Centre for Development and Population Activities, now known as C3
CSE	Comprehensive sexuality education
DEO	District education officer
DHRD	Department of Human Resource Development
DoE	Department of Education
GoJ	Government of Jharkhand
HIV	Human immunodeficiency virus
IEC	Information, education, and communication
JSACS	Jharkhand State AIDS Control Society
KGBV	Kasturba Gandhi Balika Vidyalyas
LSBE	Life skills-based education
NACO	National AIDS Control Organization
NGO	Nongovernmental organization
MIS	Management Information System
MT	Master trainer
NT	Nodal teacher
SAEP	State AIDS Education Program
SCERT	State Council for Educational Research and Training
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
UN	United Nations

Disclosure of potential conflicts of interest

No potential conflicts of interest were disclosed.

Acknowledgments

The documentation and publication of this case study was supported by a grant from the David and Lucile Packard Foundation and executed by the Department of Reproductive Health and Research, World Health Organization.

Funding

This work was funded by the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), a cosponsored programme executed by the World Health Organization (WHO). Udaan is supported by a grant from the David and Lucile Packard Foundation. The documentation of this analysis was supported by a grant from the David and Lucile Packard Foundation.

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