

**Karnali Employment Programme
Technical Assistance
KEPTA**

**Centre of Excellence Project
Lessons Learned**

Karnali Employment Programme Technical Assistance

July 2014

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List of abbreviations

BOQ	Bill of Quantities
CEP	Centre of Excellence Project
DDC	District Development Committee
DFID	Department for International Development
EC	Employment Committee
GoN	Government of Nepal
KEP	Karnali Employment Programme
KEPTA	Karnali Employment Programme Technical Assistance
KRDU	Karnali Regional Development Unit
MIS	Management Information System
MoFALD	Ministry of Federal Affairs and Local Development
NPR	Nepali Rupee
PIM	Project Implementation Manual
PSN	Productive Safety Net
TA	Technical Assistance
VDC	Village Development Committee
WCF	Ward Citizen Forum

1 Introduction

The Karnali Employment Programme Technical Assistance (KEPTA) supports the Government of Nepal (GoN) in developing and testing new approaches to employment-led poverty reduction. This support is provided through a three-tiered approach. Firstly, the Technical Assistance (TA) supports the GoN in improving the KEP through enhanced designs, systems, processes and operations in order to enable the programme to fulfil its mandate: to reduce poverty and vulnerability in Karnali. Secondly, the TA increases the KEP's institutional capacity to provide an effective response to poverty through employment in Karnali. Thirdly, the TA influences policy through research, stakeholder engagement, coordination of public works programmes (PWPs) and support to the revision of programme guidelines and Government

The TA programme has been designed as a three-year project divided into two phases. Phase 1, from September 2013 until July 2014, aims to support the KEP in designing and implementing pilot projects in the Jumla and Kalikot districts in order to test new approaches (Tier 1). Support for improving the KEP's institutional capacity is provided through training, oversight, resources and the development of a Management Information System (MIS) – which is Tier 2. Moreover, the policy process is informed and influenced by research, knowledge sharing and stakeholder engagement (Tier 3). Phase 2 is expected to be triggered on the basis of successful delivery of the outputs of Phase 1 and the GoN's willingness to improve and expand the KEP with the support of KEPTA.

The KEP, announced in the Budget Speech of 2006, was a response to the high levels of poverty in the Karnali Zone. The programme is managed by the Ministry of Federal Affairs and Local Development (MoFALD). Its aim is to reach out to very poor households with no regular employment or dependable sources of income beyond subsistence agriculture. It is intended to provide 100 days of guaranteed employment for each such household.

However, a number of assessments indicate that the programme has been underperforming, since for instance the average days of employment has been reported to be approximately 13 per year instead of 100 (National Planning Commission., 2012; Deego Pvt. Ltd, 2013a; Deego Pvt. Ltd., 2013b; Deego Pvt. Ltd., 2013c, Deego Pvt. Ltd., 2013d and Vaidya et al., 2010). Moreover, the selection of KEP projects is not part of a wider strategy to develop either the districts or the region and the quality of the infrastructure produced is assessed as being generally very low. It has been suggested that this is mainly because not enough resources are allocated to technical support and, in addition, there is no training or strategy for skills development. Furthermore, reviews show that wage payments are not timely and often not transparent and not regularly audited.

These assessments as well as the KEPTA Scoping Study (carried out in late 2013) give the overall impression that KEP is being implemented in a way that departs considerably from the existing operational guidelines. The effectiveness of the KEP is, therefore, undermined not only by the limited resources, inadequate skills and lack of systems and processes but also by the fact that the operating guidelines are not being followed. Custom and practice appear to have overtaken the original policy intent and operational guidelines.

Under Tier 1, KEPTA developed a revised model for the effective delivery of the KEP. This model is described in detail in the Project Implementation Manual (PIM) and was implemented in four pilot projects – known as Centre of Excellence Projects (CEPs) – in Jumla and Kalikot. These CEPs operated under special arrangements, as the Karnali Regional Development Unit (KRDU) set aside special funding for the payment of workers and the other inputs.

The CEPs were implemented in a short timeframe. Preparations started in December 2013, implementation began in March 2014¹ and the work was finished by July 2014. In these brief projects, there was only time to improve and test the following KEP processes:

¹ Some CEPs commenced up to two months later than this.

- Selection of the projects based on technical and social assessments as well as the approval of the village development committee (VDC) and/or the district development committee (DCC);
- Awareness raising on CEPs;
- Community-based approach for prioritising the poor;
- Job cards for participants;
- Regular and timely payments;
- Payment based on days worked and output produced;
- Technical oversight of the project sites;
- Training of local technical teams on labour-based engineering skills; and
- Social facilities such as emergency health care, childcare, insurance and toilets, etc.

2 Overall assessment of the CEP experience

The CEPs were carefully selected after a study of the plans of VDCs and DDCs and technical and social surveys. On average, five projects needed to be assessed from both the technical and social perspectives in order to find a suitable one. In the end, two road and two irrigation canal projects were selected. This was an innovative process, since in regular KEP operations neither technical nor social assessments are conducted.

Communication campaigns were conducted in the four CEP sites in order to disseminate information about benefits, responsibilities and processes such as applications and the selection of participants. Posters and pamphlets were distributed and the programme was also advertised on FM radio stations. Four gatherings at local schools were held, with an average of 76 attendees. These strategies proved to be very effective, since a very high percentage of the households living in the catchment areas applied to the CEP (66%), thus showing a widespread awareness.

Table 1: Key indicators by CEP²

	CEP 1	CEP 2	CEP 3	CEP 4	TOTAL
Households in the catchment areas	327	762	270	539	1,898
Applicants (households)	282	389	137 ³	446	1,254
Households prioritised by WCFs	189	174	190	258	811
Job cards distributed	189	174	190	258	811
Average number of days worked ⁴	68	62.29	55.89	34.06	53.14
Female main recipients (%)	55.56	62.64	44.74	31.39	46.86
Female workers (%)	46.61	56.78	51.34	38.36	47.62

The employment provided per household was much higher (53.14 days per household) than the average reported in regard to regular KEP operations (13 days). An average cash of £150.16 was transferred to each of the participating household.

Female participation rates were very high for the kind of manual work that participants were required to do: there was almost the same number of female main recipients and workers as males. This was the result of a gender-sensitive methodology and a strong emphasis on gender equality.

KEPTA developed criteria for exclusion and inclusion of households, which are based on correlates of poverty and wealth like household size, disability or asset ownership. The criteria were shared with the ward citizen forums (WCFs), which went through the list of applicants and decided if the candidates met the criteria or not. This process was facilitated by KEPTA and the WCFs were encouraged to use the criteria in a flexible way, allowing them to make assessments based on their knowledge of the communities. When required, the lists of households prioritised by the WCFs were shared with the communities and members were able to propose changes. Finally, VDCs approved the lists. This methodology was the first real attempt on the part of the KEP to target the poor. A total of 1,254 households applied to work in the CEPs and 755 were selected through the community-based approach.

² CEP 1 is located in Lasi Kudsanta, Muduri, Jumla. CEP 2 is in Molfa-Dahafatgaun, Molfa, Kalikot. CEP 3 is in Harialla, Baajagaad, Jumla. CEP 4 is in Mulkhola Sirujiula, Kalikot. The first two CEPs are roads projects while the other two focus on the building of community irrigation systems.

³ Only 137 households applied to CEP 3; however, since 146 workers were required to work in the project eight more applications were collected at the registration event.

⁴ This indicator shows the average employment provided per household until 25 May 2014. CEPs 3 and 4 started two months later than the other two and for that reason the employment provided to each household is lower or data are not available.

In the regular operations of the KEP, on-site facilities are usually not provided and services for labourers are scarce. In CEPs 1, 2 & 4, a total of six toilets were provided and childcare was offered at each site. Moreover, safety equipment such as helmets, masks, goggles and rubber boots was provided and one person per site was trained on first aid assistance.

Payments have been delivered around every 15 days and in a transparent way. KEPTA provided support and resources that allowed the DDCs to go to the sites every two weeks and pay beneficiaries directly, thus cutting out the need for any intermediary parties. Although successful overall, some minor delays were experienced with this process when local development officers and accountant officers in DDCs were absent or unavailable.

Beneficiaries were paid against the muster roll and payment was thus tied to work. A police escort was provided in order to make the process safe. A total of £ 121,277.20 was paid to workers so far.

KEPTA provided two full-time staff on site to oversee and support the implementation of the pilots, as well as district staff who did spot checks and provided support during the big events (i.e. applications, registrations, etc.).

Job cards were given to each beneficiary household. In these job cards beneficiaries keep a record of the number of days worked, increasing the transparency of the process.

KEPTA has designed a Management Information System (MIS), which is a major step for the implementation and monitoring of the KEP. The MIS stores all the data captured within the Registration Form, receives the daily muster rolls, and calculates the corresponding payments. This system sets the basis for accurate and transparent payments. Moreover, the MIS produces different reports and indicators that allow stakeholders to monitor the operations.

A substantial amount of resources were allocated to the CEPs in order to make the implementation feasible. A total of £85,794 was spent on establishing the district team and setting up and running the offices. In addition, nearly £3,000 was spent on increasing the resources of the Ministry and DDCs and to support the consultation process for the revision of the operational guidelines (see Section 3). Furthermore, motorbikes, fuel and allowances were given to DDC and KEP staff when required.

Survey equipment such as total stations, level machines and GPS have been bought by KEPTA for joint use by the KEP Unit at DDCs and the TA team. Such equipment allows for better technical assessments of projects. KEPTA provided training on the use of this equipment, allowing government staff to update and improve their technical skills. This equipment was not available in the districts before and has increased not only the level of the technical assessments but also the engagement of government staff.

The KEP's institutional capacity has also been increased through the provision of training. Training on the CEP design, the MIS and technical matters was provided not only to KEP officials but also to VDC and DDC personnel. For example, a training of trainers on labour-based infrastructure development practices was given to KEPTA technical as well as the technical assistants of the CEPs surrounding VDCs.

Despite the success of the pilot projects, there are still some pending issues that will need to be addressed in Phase 2. The most important of these is the cash transfer process. Given the time constraints, KEPTA developed a process that allowed the CEP to deliver regular and timely payments in a transparent way. This was one of the cornerstones of the pilots; however, the manual process designed cannot be scaled up since it is costly and has high fiduciary and safety risks. Therefore, an efficient and effective method – probably relying on electronic technologies – will have to be developed in Phase 2. Other aspects that will need to be strengthened are the monitoring and grievances processes. In relation to the former, the CEPs substantially improved the monitoring of the KEP by designing and operationalising a MIS and increasing the resources allocated to monitoring and supervision.

However, the experience lacked a clear structure of reporting and an incentive structure that allowed implementers to make decisions based on monitoring data. Almost no grievances were raised in relation to the CEP experience, indicating that the process for receiving complaints was unsuccessful.

As in any pilot, the CEP experience was very staff intensive. It remains a challenge to achieve these good results with fewer resources and relying more on government and community structures.

Overall, the work done in Tier 1 can be considered successful since the pilot projects have shown positive results in a very short period of time and the GoN has agreed to own and roll out the revised model in Phase 2.

3 Assessment of CEP processes

In this section we present the lessons learned from the CEP experience on a process by process basis.

3.1 Project selection

Project selection proved to be more challenging than anticipated. While the key approach of using existing DDC-approved projects was the most sensible path to take, limitations at the implementation level complicated the process. In brief, the challenges and the lessons learned in selecting the projects are as follows:

Issues

1. The projects in the DDC Council Report were noted as being selected on a political basis.
2. The list of the DDC projects tended to be very long with no technical or costs details and not prioritised. Consequently, they were only of limited use in identifying suitable CEP projects.
3. These projects had little or no technical, financial or social details.
4. It took significant time to examine all the possible projects (from the Council Report).
5. Some approved projects did not exist and some had been completed several years ago, meaning the lists were not accurate.
6. There was a strong preference for road and irrigation schemes, which does not allow for more creative projects that might be suitable for disadvantaged communities.
7. There was a need to achieve inter-district regional and ethnic balance in addition to a political one.
8. Projects of larger funding levels (e.g. NPR 5 million) were difficult to implement in the limited timeframe of three months with the available number of workers.
9. Climatic factors (especially in Jumla) proved to be a limitation as most of the high-altitude areas were covered with snow during November to January, which was the period in which detailed surveys (technical and social) were carried out at field level.

Lessons learned and ways forward

1. It is not practical to depend solely on the DDC Council Report for the selection of projects. It may be necessary to go to the VDC level for more realistic projects. If this still does not work, then a new project may need to be selected with the help of a VDC technician.
2. A wider district-level meeting involving all key stakeholders proved to be effective in addressing implementation-level conflicts. Meetings of this type need to be organised prior to the finalisation of the projects in order to ensure that regional, ethnic and political balances are broadly realised in the selection of the projects.
3. KEP projects should be on the smaller side and should be close to settlements and directly reflect community needs in order to ensure greater community ownership. There should be a clear consensus on the size of the projects to be supported by the KEP.
4. Rural roads, while popular, require larger numbers of people to be drawn from wider geographical areas, all having different levels of ownership of the projects. This created internal conflicts. Thus, smaller projects capable of being implemented by smaller groups of people drawn locally are socially more manageable and productive.
5. Projects that rely more on local materials, such as watershed management and land-improvement projects, should be easier to implement. However, the KEP is yet to acquire significant experience in this area.

6. The productivity of workers in snow-covered areas is low. Feasibility studies in Jumla or other snow-prone areas should thus be carried out within September while the detailed survey should be completed within October. Implementation could then start within the last week of February.

The project selection process and activities in the pilot phase also demonstrated that detailed technical and social assessments could be expensive and time-consuming. This will be a limitation when rolled out to wider areas. It is therefore essential for **KEPTA to explore a more cost-effective 'light touch' approach to social and technical assessments in selecting, surveying and designing infrastructure projects.**

3.2 Preparation of the works and site set-up

The preparation of works and site set-up included a number of technical activities leading to the award of work projects to worker groups and the organisation of site-support measures to establish a functioning working environment. The challenges and lessons learned relating to technical areas are broadly as follows:

Issues

1. Technical surveys were regularly interrupted by disputes related to the selection of projects, the selection of alignments, and complaints from land owners whose land was required by road or irrigation projects.
2. The designs of projects had to be changed several times to address disputes.
3. Site supervisors without technical knowledge were only able to provide limited technical supervision.
4. The interim measurement used to arrive at the supplementary payment after around 45 days of work was complicated and difficult for workers to understand.
5. Hand tools and local site-based materials could not be provided in a timely manner to workers.
6. The quality of some of the hand tools (external and local) was poor and the logistics of identifying sources and delivering them was complex and time-consuming.
7. Criteria and basis of distinguishing skilled and unskilled workers was not clear. Considering less number of days required for skilled workers it was not necessary. However, the wage rates are different wage.
8. The enforcement of agreed site management systems proved to be difficult.
9. Provision of materials such as cement was costly and transport to sites was difficult to organise.

Lessons learned and ways forward

1. It is important to have a DDC-owned dispute-resolution policy for KEP projects, which includes views on compensation (if any) for land acquired by the project. This should be also linked to the grievance redressal mechanism.
2. The timing of measurements is critical in determining the level of productivity as well as the tentative amount of supplementary payments. When to measure depends on the size and nature of the project; the provision of 45 days cannot be universally applied, meaning that some flexibility in terms of interim measurements should be allowed. In fact the interim measurement should not be continued in future.
3. Work allocations being smaller would allow work to be completed quicker, meaning that groups can move on to the next work assignment faster.
4. Limited management capacity at the district level resulted in centralised procurement by KEPTA and this led to delayed local procurement processes that affected site management. The district management needs greater capabilities in this regard, which would mean they were then empowered to undertake a reasonable level of local procurement.

5. Skilled workers were noted as being accommodated in the unskilled worker group without any difference in wage rates. In future, except in relation to significantly different skill requirements, unskilled workers could be taught to provide skilled services without the KEP having to recruit skilled workers separately.

3.3 Targeting

3.3.1 Eligibility criteria

There are three different types of eligibility criteria the beneficiaries must meet: age, residency and poverty level. Although only one household member can work at a time, more than one member can be eligible and entitled to work.

Age: Only adults can be beneficiaries of the CEP. An adult is classed as a person aged between 18 and 59.

The qualitative research (see Annex A) found that people believe that household members between the age of 16 and 18 years old should be eligible, since such members are usually engaged in economic activities.

Residency: Only people living on a permanent basis in the catchment areas are eligible. The CEP has an 'area of influence' approach; this means that only communities that are within a one-hour walking distance of the site area are eligible.

For various reasons, in some CEPs KEPTA had to recruit workers from outside the area of influence. In the case of CEP 3, for example, some workers had to walk 1.5 hours to the project site. This seems to have a negative effect on the type of households that applied: fewer female-headed households applied because it was difficult for women to balance the work with household chores.

Poverty: Prioritised households must meet at least one of the following criteria:

- a) Households with a member who is registered as physically impaired/disabled;
- b) Dalit/minority/indigenous households;
- c) Female-headed households;
- d) Households with pregnant/lactating women; and
- e) Households with a large number of dependent members (both children and elderly people).

The following households are excluded:

- a) Households with at least one member earning a salary from employment;
- b) Households receiving support from non-governmental organisations or other public programmes; and
- c) Households with valuable assets.

The criteria were well received by the WCFs (see Annex A). Moreover, the qualitative researchers asked beneficiaries and non-beneficiaries to characterise the poorest of the poor in their communities and the results were very similar to the criteria developed by KEPTA.

The fact that the criteria are flexible, in the sense that WCFs need to define what assets could be considered valuable or when the size of a household could be considered large, was also positively assessed.

Main lessons learned:

- The age restriction should be revised. The lower boundary could be set at 16 years of age instead of 18. It is important to respect the areas of influence, otherwise the targeting could be negatively affected. Therefore, a very poor community at the end of a road should not be permitted to work on the road that links to their village if the works required are some distance away and they do not fall within the area of influence?
- In order to do so, only projects with enough households available to work and living in the area of influence should be selected as far as possible.
- There is no need to modify the criteria.

3.3.2 Applications

All interested and eligible households were invited to apply to the programme. In order to do so, they had to attend the Applications Event (with their national identification card), where KEPTA staff enlisted applicants.

VDC secretaries and WCF members were asked to support the process. This proved to be essential, especially in the absence of ID cards, since it was necessary to check the residency status of applicants.

Applications events were difficult to manage since in some cases there were around 400 applicants (see Table 1). It would not have been possible to complete this challenging task without the support of volunteers, support staff and, in some cases, KEPTA central staff.

It is recommended that future applications events are organised in such a way that cluster and/or district staff can assist with the events and support the process. These staff will have to be properly trained in order to do this.

3.3.3 Community-based prioritisation

According to the PIM, the above criteria are assessed on a subjective basis by the WCF. Based on its knowledge of the community it is the responsibility of this group to define, for example, which assets are considered valuable and are therefore an indication of wealth and exclusion from the programme or what a large number of non-adult members is.

The involvement of WCFs in the prioritisation and selection of workers was appreciated by all the WCFs and stakeholders. However, evidence collected in the qualitative research (see Annex A) indicates that WCFs relied too much on KEPTA; it therefore remains a challenge to see how they will perform without KEPTA's support on site.

Some WCF members felt that prioritising workers was a big responsibility and they did not want to do this for their own communities. For that reason, in CEP 1 community gatherings were organised in order to validate the prioritisation done by WCFs and propose changes if needed. The burden on WCFs can not only be reduced using community validation but also via better training: proper orientation would allow them to better understand the programme and the importance of their role.

Although the process proved to be successful, it is recommended that in the future WCFs are better trained so that they can perform this prioritisation without relying too much on the KEP and that community meetings are organised after every prioritisation event in order to validate the results.

3.3.4 VDC approval

The lists of candidates prioritised by WCFs were shared with VDC Secretaries for their approval. When doing so, some Secretaries required that applicants without ID cards had to request a certificate from the WCF and approval from the VDC in order to prove their eligibility.

3.4 Training

3.4.1 Non-technical training

A week-long non-technical training session was conducted with the objective of orientating KEPTA staff and district KEP units on the PIM and the implementation of the CEPs. This training was intended to: (i) develop common understanding and ensure clarity on implementation processes; (ii) enhance site management skills; (iii) enhance staff's skills in regard to efficiently entering the required data into the MIS system; (iv) ensure effective use of the KEP MIS for monitoring and reporting; and (v) enhance conflict-management skills among staff.

The training programme definitely contributed to orienting the staff on programme procedures. The training evaluation gave very high ratings in terms of training methodology, facilitation skills, training management, content and, most importantly, training output.

However, there are aspects that will need to improve in order to ensure that staff are capable of performing their duties. Some key points relating to this are as follows:

- The training could be strengthened through the involvement of an expert lead trainer and more time for preparing the training plan, material, etc.;
- The social mobilisation component of the training was not sufficient. Although social and political conflicts are faced in the field and the skills to manage them cannot be fully developed in a short training session, more emphasis on these issues could certainly improve their management;
- All field-level staff should participate in the PIM orientation and the training should be for a length of not more than three days. One full day of training on the MIS could be combined with this training. Both field- and central-level staff should be oriented on the MIS;
- It is not possible to develop all the necessary skills during training, meaning staff still require on-site coaching;
- KEPTA staff should be trained on administrative and financial procedures.

3.4.2 Technical training

Two week-long technical training courses were held for KEPTA and VDC technical staff with the objective to 'train trainers who will train others in the KEP on best practice for labour-based works'. In total 17 participants attended the training that was conducted by the international trainer in March 2014 in Jumla and Kalikot. The principal topics covered in the courses were: i) Principles of labour-based technology; ii) Site establishment and management; iii) Labour issues; iv) Occupational safety and health; v) Setting out (techniques and tools); v) Work activities; vi) Site work planning, implementing and monitoring (including quality control); vii) Environmental Management; and viii) Principles and process of training of trainers

Although the two courses were of a short duration, the participants still managed to receive a structured introduction to labour-based work methods for rural infrastructure in Nepal. In general, the participants showed great interest in learning more about labour-based technology, which they

possibly perceived as out-dated and only executed in Nepal. By demonstrating that this technology is used worldwide, is a an excellent choice to combat poverty and is at the same time still challenging in technical terms, most participants were subsequently convinced that such methods are appropriate for KEP's rural infrastructure works.

The internal course evaluation revealed that the participants were satisfied with the course but felt that the training was too short and that follow-up training would definitely be required. They also recommended developing and introducing a Field Handbook containing important technical and site managerial issues. They also recommended that the practical and appropriate technology that was the focus during the course should be introduced to all technical colleges in Nepal.

The main lessons learned from these first technical training courses were as follows:

- Initial technical training on labour-based methods must be followed up with on-the-job training and adequate coaching to ensure that the transition from initial course learning to actual work implementation runs smoothly. Duration of initial technical training should be of extended to at least ten days against just the six days carried out in Phase 1.
- The participants who attended the two courses had rather different backgrounds in terms of education and professional experience, with the effect that some participants were overburdened while others were unchallenged. Training would be more effective if the trainee groups were more homogenous.
- It will be a challenge to provide proper supervision if unskilled supervisors are to be used, as the Phase 2 plan currently indicates. It will therefore be important to involve other skilled personnel (such as VDC or cluster technicians).
- Site organisation requires a lot of attention from the technical supervisors. Project and daily work planning is fundamental for effective work implementation. Labour-based methods are not only about alternative survey and setting out methods but mainly about good site work management. Particular attention must be given to labour management, safety and health on site, work allocation, the issuing of correct and good-quality hand tools, and productivity control.
- General (national) productivity rates cannot be unquestionably adopted but need to be reviewed and adjusted to the particular conditions of every work site. This requires adequate planning and recording of work activities and actual productivity details.

3.5 Registration of beneficiaries

3.5.1 Registration

Once they had been prioritised by the WCFs, applicants were then registered by the Programme. This process consisted of collecting data about the households and filling in the Registration Form. Moreover, each household had to select one main beneficiary and the staff took a picture of him/her for the job card. The registration forms and photos were sent to the district headquarters for data entry.

The registration process was challenging due to the number of people that had to be registered and the fact that staff were in some cases overwhelmed. Anticipating this challenge, KEPTA sent central-level staff to oversee and support the registration process and this proved to be essential.

Since in the future it will not be possible to have a central staff member at each registration event, it will be indispensable to improve the training in this regard. However, it should of course be noted that some of the district staff have now gained experience through the pilot projects and will be better placed to manage registration events in the future.

As in the applications event, it will be essential that at least one person from the central team assists the event to oversight and guide the district team.

3.5.2 Job cards

The distribution of job cards to workers was a significant innovation. Beneficiaries as well as stakeholders widely appreciated the use of cards, which increased transparency and accountability as well as locals' sense of ownership of the programme.

Photo 1: Workers with their job cards



3.5.3 Election of employment committees

Employment committees (ECs) were formed in the four CEPs following the programme guidelines. However, none of the ECs played the role described in the PIM; in practice, they failed to represent the workers, to channel grievances and to mobilise workers. This failure can be explained as being due to a lack of training, limited skills and experience, and because KEPTA staff did not engage them properly.

The role of ECs will need to be revised in Phase 2. Since in the next phase the KEP will not have full-time staff on site, there is a lot of potential for relying on ECs or a similar group. The role of any community group involved will need to be strengthened by assigning clear responsibilities, providing training and meeting with them on a regular basis. KEPTA will have to assess whether EC members have the right profile for performing the activities proposed.

3.6 Management and supervision of worksite

The formation of the work groups was a smooth process and the overall progress of the work was good. However, there is room for improvement. In particular, the allocation of work between group members was not always optimal and in some cases groups and group members worked too closely together to ensure either efficiency or safety.

The facilities provided for the workers were generally appreciated as they had not experienced these during other similar works. Drinking water was provided in all CEPs, as was first aid assistance.

Toilets were provided in CEPs 1 and 2 but due to the long distances involved they could not be provided in CEPs 3 and 4.

The safety equipment provided (such as hard hats and goggles) was not popular because such items are unfamiliar to workers and not particularly comfortable to wear. The potential risks in not using such equipment are not well understood by the workers and greater awareness is required.

The childcare centres worked well in some place and not in others. The reasons they did not work in some places included the following: the carer selected was not experienced enough, mothers had to walk long distances to get to the childcare centre, and/or mothers did not want to leave their children with strangers. There was a significant proportion of women working on the CEP sites and they often outnumbered men. Many of the women brought their young children and babies to the site and, where the crèche system did not work, these children were left sitting all day on the site beside the workers.

The level of supervision provided on the CEPs was adequate but better supervision would have brought better results in terms of work efficiency and quality. This will remain a challenge for the KEP due to the lack of technical skills at VDC level and the remoteness of many of the infrastructure sites, such that the levels of supervision on KEP works are likely to be lower than was the case with the CEPs. The site-in-charge and cluster technical staff need greater overall control over implementation planning.

The main lessons learned were as follows:

- Some addition to the basic training is required for group leaders before work starts, focusing on site safety and worker organisation. This should only need to be a maximum of one day. The site-in-charge supported by the cluster coordinator should organise this.
- There needs to be more ongoing guidance from site supervisors and sites-in-charge to group leaders during implementation.
- There should also be more awareness raising regarding site safety issues and the risks involved in not wearing hard hats and goggles in appropriate situations. This could include initial briefings, site safety posters, more detailed site safety training for group leaders, etc. A further proposal would be to start each work day with a five-minute safety briefing during which workers and supervisors discuss current site safety issues.
- Longer technical training for technical staff and site supervisors is recommended. This should include training on project and site planning issues. All technical offices should as a minimum have a site progress plan on the wall and the project design details and Bills of Quantities (BOQ) available at all times.
- Criteria for the selection of carers should be developed and enforced in order to guarantee that carers have the right experience. Moreover, there should be at least one carer for each ward in the catchment area.
- Childcare centres should be set up in locations that do not require workers to walk long distances. More than one centre per site may be required.

3.7 Procurement

KEPTA procured safety gear, tools and equipment, as well as material and goods for the provision of facilities such as the childcare centre, safe drinking water and toilets. Although the provision of

these items was a new standard for the KEP, the quality of tools and safety gear was in some cases inappropriate (see Annex B and the Training of Implementers Report).

It remains a challenge to see if the KEP can procure tools, gear and equipment on time, transparently and to the standards required. In Phase 2 KEPTA will face the challenge of supporting this process, which should be led by the GoN.

3.8 Payments

3.8.1 Payment modality

CEP beneficiaries were entitled to a basic flat-rate wage and a supplement. An alternative modality – i.e. a task rate system where a wage is paid for a set amount of work carried out – was also designed but dismissed after the technical trainer revealed that this method was not appropriate (see the Training of Implementers Report).

The basic flat-rate wage was dependent on the number of days worked. Every day, the workers would sign the attendance register themselves when they started working and when they left the project site. The number of days worked by each beneficiary was registered in the muster roll, which then determined the amount to be paid.

Beneficiaries could also earn supplementary payments that were linked to their performance. Supplements were paid at the end of the projects and once the technical team had assessed the completion of the work.

Beneficiaries appreciated the flat-rate payments, although they indicated that the amount was low (Annex A). The amounts were set according to the district wage rate, but in order to receive values similar to the district rates workers would need to be entitled to the supplementary payments.

The value-added of the supplementary payments is not entirely clear. They could increase productivity by incentivising beneficiaries to work hard and produce certain outputs; however, although there is no robust evidence about these payments, supplements do not seem to increase productivity for a number of reasons: 1) The calculation of the supplementary amount is too complex and therefore not only beneficiaries but also some staff did not know how to calculate it. As a consequence, since people did not know how much they would earn, it seems unlikely that the supplements had any effect on productivity; 2) The incentive was only paid at the end of the project, and therefore it is difficult to see how such a long-term incentive could affect the daily work; 3) It seems that timely and frequent payments as well as genuine interest in the assets created are better incentives than supplements; and 4) People did not believe that the supplement would ever be paid, based on past experiences.

The other argument for paying supplements came from the productive safety net (PSN) side. International evidence suggests that lumpy payments tend to be invested in assets, used to pay loans, etc., rather than only for consumption, which is what periodic cash transfers are predominantly used for. From this view point, the CEP provided a safety net for consumption through regular wages and a lump sum that could have potentially been used for investments. This is particularly important for a PSN, as the new KEP aims to provide not only social protection but also promote economic development.

In order to define the usefulness of the supplementary payments and assess whether this payment modality should be used in Phase 2 it will be important to understand how people used these lump sums and if the amounts were sufficient to make any significant investments. In the event that KEPTA decide to maintain this type of payment, its calculation needs to be revised. Furthermore, any new solution should be simple and easy to explain and understand.

3.8.2 Payment process

A core provision of the CEPs was to ensure the regular, timely and predictable payment of wages. In the short timeframe in which the CEPs were designed, it was not possible to create and pilot electronic cash transfers, as would have been the intention of KEPTA. Instead, a simple manual process was set up, by which the DDCs, with KEPTA support, transported the funds manually to the project sites and paid them directly to the beneficiaries on a fortnightly basis. The payment list, produced by the MIS, was based on the muster rolls entered on a daily basis at the sites.

Although simple, this process was something of a major breakthrough. Beneficiaries were very satisfied with this methodology (see Annex A) and it seems that it contributed to increasing their productivity as well as the transparency of the process.

However, transferring cash on a fortnightly basis on time proved to be a complex task. The payment process involved taking measurements of project work, submitting running bills, clearing previous advances and getting the approval of DDC bank signatories. This proved to be a lengthy process, exposed to many risks that could cause delays. In fact, in the CEP experience there were occasions where bank signatories in DDCs were unavailable and this caused some delays in the disbursement of cash.

This manual system is very costly, inefficient and prone to fraud. As a consequence, in Phase 2 KEPTA will design an alternative system, probably based on branchless banking.

3.9 Data entry

Entering the data of the registration forms and the daily muster rolls into the MIS proved to be a complex task. The MIS was designed as an internet-based platform, which allowed for automatic updates and made information readily available. However, many sites did not have access to the internet, or such access was only intermittent, forcing teams to enter the data offline and then seek internet access to upload it.

It is advised that in Phase 2 the MIS training should be stronger, since many team members faced difficulties when entering the data. In the same vein, district and cluster staff should be computer-literate.

Since the early plans indicate that the KEP will not have full-time staff on site in Phase 2, a mechanism for entering the daily muster rolls will need to be designed.

3.10 Monitoring

According to the PIM, KEPTA and KEP staff have different monitoring responsibilities:

KEPTA district offices, mainly represented by district coordinators, were made responsible for monitoring the CEP sites, ensuring timely payments and managing projects. The district coordinators were found to be effectively monitoring the sites but struggled to make timely payments due to the various challenges described above in Section 3.8.

Cluster and site teams were responsible for monitoring the attendance of workers, the quality of the infrastructure produced against the technical designs and estimates, and the effective management of site facilities such as toilets, childcare centres, drinking water, and first aid facilities.

The central-level team (including officials from MoFALD) also made frequent monitoring visits and provided on-site feedback. The local development officers, chief district officers and other local officials made monitoring visits and provided feedback to the KEPTA district office.

A joint monitoring visit to all four CEP sites by a team of DDC officials, local political party representatives, media personnel and the KEPTA district office was conducted.

The learning experience in Phase 1 suggests a need for the following interventions in the area of monitoring:

- Robust monitoring tools, techniques and methods should be developed and put into practice to ensure effective compliance with the PIM;
- A person, preferably the proposed Social Mobilisation Coordinator, should be assigned to take responsibility for the overall monitoring process and to submit periodic monitoring reports;
- The MIS should send periodic reports with key indicators to a selected group of staff. The reports need to be tailored to the responsibilities of each staff member. Key indicators should also be uploaded to the KEP website;
- The joint monitoring should be further strengthened, as it serves as third-party oversight. Auditors should be asked to evaluate the KEP against a predefined set of indicators. A comprehensive joint report should be made a mandatory submission. The number of people involved in the joint monitoring currently seems too high; attempts should thus be made to downsize the number of team members. The frequency of joint monitoring should, however, be increased to preferably twice a year.

The KEP Guidelines have a clear provision in regard to a VDC and DDC-level monitoring and coordination committee; however, these committees unfortunately do not exist in the pilot districts. In order to ensure effective monitoring, these committees need to be activated and strengthened.

3.11 Grievances

According to the PIM there are two main channels for submitting complaints: through ECs or using the complaint boxes available at sites.

The ECs did not play any meaningful role in this regard. This is likely to be due to a lack of training and clear responsibilities, but also they may not have the right skills and profile for the job. An alternative mechanism may need to be used in the future, maybe involving WCFs instead of ECs.

The complaint boxes were placed in all CEPs. In CEP 2, for example, the boxes were opened by the site staff fortnightly and the few grievances submitted were sent to the KEPTA office. In general, most grievances related to wage rates and targeting.

Based on the experience of Phase 1, the recommendations are as follows:

- The role of ECs on managing grievances should be further reinforced or alternative methods of grievances should be developed.
- There should be one complaint box per site.
- The Social Cluster Coordinator should be in charge of responding to any complaints, preferably in writing.

- Complaints and their resolutions need to be entered into the MIS.
- KEPTA should develop standard responses to the most common queries.
- The grievances form needs to be revised.

3.12 Infrastructure produced

The CEPs for Phase 1 comprised one short section of motorable road and one gravity irrigation scheme in each district – Jumla and Kalikot. The overall speed of construction and high level of enthusiasm on the part of the workers were two of the main successes of the CEPs. The good motivation of workers was closely linked to the regular two-weekly payment of wages.

The overall quality of the work was good on all the sites and much higher than other infrastructure produced via VDC-level projects in the area. However, there were numerous technical deficiencies of a relatively minor nature that could easily be solved with better attention to detail at the design and implementation stages. These are noted in detail in Annex B.

The standards of work were in some cases higher than had been deemed necessary. For example, the width of the running surface for motorable roads could have been 3 metres instead of 4 metres and the lining of irrigation canals involved a large amount of cement that could have been saved with a simpler lining material.

The lessons learned are as follows:

- High rates of progress can be achieved with workers who are motivated through a predictable, frequent and reliable cash transfer payment system.
- High rates of progress can be achieved without the use of machines.
- Good-quality work can be produced by VDC-level workers.
- Longer and slightly simpler training is required for site-based KEPTA staff with the inclusion of, for example, practical exercises in setting out (smooth lines) by eye.
- Refresher training and/or technical seminars for cross learning between KEP sites are required.
- A simple manual is required to remind trainees of lessons learned and to assist in the training of others, e.g. VDC-level staff. This should be printed in Nepali and given to all staff involved in supervising KEP works (including VDC-level staff).
- A 'book' of standard details should be produced to guide the standards to which KEP infrastructure should be built. This should contain details of irrigation canal linings, motorable road cross-section widths and crossfalls, etc.
- More appropriate standards should be adopted and continuous innovation applied to KEP projects in order to minimise the use of external materials and make best use of labour-intensive technology.

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Annex A Qualitative assessment

The Karnali Employment Programme Technical Assistance (KEPTA), in association with the Ministry of Federal Affairs and Local Development (MoFALD), implemented four Centre of Excellence Projects (CEPs) in the Jumla and Kalikot districts of Karnali. These CEPs have been testing new processes set out in the draft Project Implementation Manual (PIM) and provide an opportunity for learning on and refinement of the new approach. Based on the CEP experience, MoFALD intends to support roll-out of the new approach from October 2014,⁵ with a view to covering all Karnali districts and, potentially, the expansion of the programme to additional districts over the coming years. The Technical Assistance (TA) Team has been piloting the CEPs in Jumla and Kalikot districts. As the test phase of the CEP comes to an end in June 2014, KEPTA carried out a qualitative assessment to document key learnings in order to refine the roll-out plan.

The objectives of the qualitative assessment were to:

- Assess the strengths, limitations and challenges of programme implementation;
- Explore potential areas of improvement to further streamline every step in programme implementation; and
- Document key learning from the implementation of the pilot projects.

This qualitative research involved 18 key informant interviews (KIs) with district- and village-level stakeholders and 12 focus group discussions (FGDs) with 113 community members (40 female and 73 male), including the Ward Citizen Forum (WCF), project beneficiaries and non-beneficiaries. Relevant documents such as policy notes, the PIM and KEPTA progress reports were also reviewed.

Key findings

Overall, the CEP projects have been implemented on the basis of the approach outlined in the PIM and most of the activities mentioned in the PIM were found to have been effectively implemented.

Implementation process

- The workers and WCFs understood the targeting process. The project has applied a community-based approach for prioritising poor households with a set of eligibility criteria covering age, residence and poverty. However, in one instance this has not been implemented as intended given the low number of workers available at one of the project sites.
- Although WCFs demonstrated adequate knowledge of the selection criteria, discussions with WCF members suggested that they were not actively functional in the wards and had little knowledge of their formal roles and responsibilities as community representatives.
- The eligibility criteria designed by the programme correspond well to local perceptions of poverty. Respondents suggested that the main criterion for assessing poverty at the community level is ownership of productive agricultural land and food sufficiency. However, land ownership per se is not seen as a 'valuable asset' or indication of wealth as respondents noted that, in general, most of the surrounding land is not appropriate for agricultural production. Households headed by females or with higher number of dependants were likely to be more vulnerable than households with male adult members. Respondents reported that there were no significant differences between the Dalit and non-Dalit (castes) in terms of income poverty.

⁵ The New Karnali Employment Programme, Policy Note.

- Within the eligibility criteria, the age threshold for eligibility does not match local practice as boys above 16 years of age are normally involved as adult workers in other public works programmes and casual work, receiving similar wages to those who are older.
- Respondents overwhelmingly preferred direct cash payments close to the project site and most of them preferred fortnightly payments. The first CEP payment was disbursed on time but subsequent payments were delayed by three to four days. It appears that a lack of proper orientation for district KEPTA staff on the financial procedures and practices of the District Development Committee (DDC) and the absence of signatories within the office caused these delays.
- Workers were aware of supplementary payments but both beneficiaries and staff did not seem to know how these amounts are calculated. The effectiveness of this supplementary amount in terms of increasing workers' productivity was not assessed by this research as construction work was still in progress. This can be identified only after the technical evaluation.
- At one project site (CEP 3, Jumla) the distance to the construction site from some workers' residences was found to be beyond the 'area of influence approach' intended to be used in the CEPs as the site was more than one hour's walking distance. This was a result of delays to programme implementation and subsequent shortage of workers in catchment wards.
- There were no reported issues with the organisation of work at construction sites. Group leaders maintained an equal workload among the workers in both districts. Safety equipment was found at both sites; however, one of the two project sites (Jumla) did not have functional toilets or a childcare centre.
- The employment committees (ECs) were found to be dysfunctional, particularly in CEP 3. As a result, the proposed grievance redressal mechanism in the PIM was not fully operational.
- In terms of coordination and relationships with stakeholders, the district and village development committee (VDC)-level stakeholders were satisfied with the KEPTA team. However, there was a lack of coordination between the VDC and project staff at the ward level.

Socioeconomic context

- The average food expenditure value for a normal household was reported to be NPR 260 in Jumla and NPR 280 in Kalikot. This is NPR 10 higher than the basic CEP subsistence wage rate in Jumla and NPR 30 higher than in Kalikot.
- The research suggested that there are two normal seasons in terms of food availability from agricultural land in both districts: 1) mid-October to mid-November and 2) mid-May to June. The two lean seasons are 1) mid-December to March and 2) mid-August to mid-October for both districts.
- Almost all the respondents preferred working in a public works programme like the KEP from mid-December to mid-March, as this is the 'off season' for agricultural work.
- The majority of respondents preferred roads, small irrigation canals and agricultural farms as suitable assets for public works programmes. Most of the stakeholders stated that road construction is more labour intensive and thus beneficial for more of the community than the construction of other assets.

Recommendations

On the basis of the qualitative research findings, the following recommendations are made to inform the design and implementation of the next phase of the KEP:

- Although delays in payments are minor, future delays in payments can be averted if there is better communication of the DDC's official procedures and practices to the KEPTA team. A common understanding among stakeholders – particularly between DDCs and KEPTA – has to be developed in regard to the schedule and amount of payments before the beginning of construction work.
- A detailed feasibility assessment should be undertaken prior to construction, in order to ensure the availability of the required number of workers within 1 hour's walking distance of the construction site.
- Given the weak representation of WCFs at the community level, the community-based selection approach could be strengthened by including a community validation exercise. The final list of selected households could be verified in a community meeting conducted by the WCFs with oversight from KEPTA. This would improve targeting accuracy, as well as allow greater engagement on the part of the WCF with the programme.
- The poverty-based characteristics of the existing targeting criteria correspond well to community perceptions; however, the age threshold within the criteria may need to be revised downwards (albeit in light of district and national policies on child labour).
- The Employment Committee (EC) should be involved in ensuring that basic facilities are functional at the project site. More importantly, ECs should take the primary responsibility in handling conflicts and managing grievances during the construction phase.
- Consultation with the village-level stakeholders and the workers, particularly with mothers of children between two and three years of age, should be carried out before selecting childcare centres and care givers. This consultation should be focused on building the confidence of mothers to leave their children in the childcare centres. Social cluster coordinators and the EC should be responsible for such consultations.
- In addition to constructing temporary toilets for construction workers, existing public or private toilets should be used with necessary repair, where possible. Such a practice was found in CEP 2 in Kalikot and could be replicated in other parts while scaling up.
- Intensive training on the PIM should be provided to field-level staff before their placement. Along with the implementation process, the training should be focused on the roles and responsibilities of the district as well as VDC-level coordination committees, WCFs, ECs, group leaders and staff.
- Monitoring from district- and VDC-level stakeholders (e.g. the Local Development Officer, the KEP Unit, the KEPTA team and other relevant line agencies) should be conducted so as to provide field-based inputs to site-level staff and ECs, as well as to provide feedback to the central KEPTA team.
- The programme should be implemented considering the lean season of mid-December to March. The appropriate season for providing employment is mid-November to mid-March as this is regarded as the 'off season' for agricultural work.
- The basic wage rate of NPR 250 per day seems to be lower than the normal food expenditure of a household, which was NPR 270 on average. This seems sufficient if the programme aims to provide basic sustenance to households in the lean season but needs to be increased, particularly for households with low labour capacity, if the aim is to encourage productive expenditure (or savings) at the household level.
- A socioeconomic assessment of the other districts of Karnali (i.e. Dolpa, Mugu and Humla) should be carried out while scaling up the project to other parts of Karnali.

Annex B CEP technical report

B.1 Field observations

B.1.1 Visit details

Gary Taylor of Cardno I T Transport and part of the KEPTA team visited the four ongoing CEP sites in Jumla and Kalikot districts between 28 May and 2 June 2014. The programme of the visit is shown in Table 2.

Table 2: Visit programme

Date	Visit	Overnight
27 May	Travel from Kathmandu to Nepalgunj	Nepalgunj
28 May	Arrive Jumla – travel to CEP 1 and inspect site	CEP 1 site
29 May	Return to Jumla District Headquarters	Jumla
30 May	Travel to CEP 3 site and inspect. Travel to CEP 2 site and inspect	Manma
31 May	Travel to CEP 4 site and inspect	CEP 4 site
1 June	Travel to Nepalgunj	Nepalgunj
2 June	Fly to Kathmandu	Kathmandu

B.1.2 CEP 1: Jumla

This project replaces a footpath with a motorable road over a pass between the villages of Tirkhu and Mudurigaun in Jumla district. It is approximately 1.3 kilometres in length.

The overall impression is of a well-organised site producing good-quality work.

At the time of the visit, the majority of the workforce was women. Most men were away during this particular season for the collection of medicinal herbs (*yarsagumba*). The ongoing work included stone soling and dry stone walling. Most of the excavation work had already been completed. Except for motorcycles, there is no motorised traffic on this road section because the roads linking this area are not passable, e.g. beyond Tirkhu.

The main observations were as follows:

1. The **running surface width** is 4 metres including the stone soling. A running width of 3 metres would appear to be adequate. My recommendation would be for a 3 metre running surface with 0.5 metre shoulders. (In steep and difficult areas the shoulders can be reduced or eliminated but this is not necessary here.)
2. There is **no camber or cross fall** on the running surface. This is necessary to shed rainwater and avoid water running along the road surface and forming channels. Camber boards were not being used to control crossfall during construction (see the notes on training in the next section).
3. The stone soling has **no edge restraint**. Particularly on the side drain side, this is likely to lead to stones becoming dislodged and to damage to the road surface. The solutions are:
 - a. Excavate a shallow box for the surfacing material, which would provide some edge restraint.

- b. Use larger stones at the edge.

Photo 2: Stone soling on CEP 1



Photo: Prashant Rimmel

4. The road alignment (centreline) is good but the side drains' alignment is not. This is because they are not at a constant distance from the centreline, meaning the side drains 'wobble'. Setting the side drain alignment should be easy; it just needs eyeing along the line. The simplest solution is to set the side drain alignment over a distance of at least 100 metres using either stones, a trail of sand/soil or a long rope, adjusting these until a smooth alignment is achieved. Then mark this in the soil using a hoe and dig the side drains following this line.

Photo 3: Side drain alignment



5. Where there is space, as at CEP 1, I would recommend **wider and shallower side drains**. These are easier to maintain and safer for vehicles (e.g. inner slope 2:1, bottom width 0.3m, outer slope 0.5:1, depth 0.25m).
6. The dry stone walling is good but has been used in some places on the uphill side where the soil is constantly wet (seepage). My experience is that **gabions work better in this situation** as they allow water through and can accommodate some movement without failing.
7. I would prefer to see **more batter on the front of the dry stone walls** for greater stability. The front face of the current walls looks too close to vertical.

8. There is a difficult and potentially **dangerous corner** at approx. chainage 1060. This needs more attention, including more excavation on the uphill side and marking the downhill edge of the road with safety posts or large stones to prevent vehicles moving too close to the edge. It is important not to underestimate the work required to solve this point.

Photo 4: Dangerous corner



Note steep drop on left and high bank on right

9. In preserving the tree just after the highest point, the road alignment is slightly out. Preserving the tree is good but a **new road centreline** should be set. As things stand, there will be a kink in the road centre line here.
10. The stone soling has not yet been **blinded with fine material**. I was told granular material would be used for this. My experience is that blinding material with some clay content provides a better running surface and, with more cohesion, it is less easily lost to abrasion, wind and surface water. However, this should not be laid thickly to avoid producing a slippery surface.

Hand tools

- Shovels – strong but rivets catch hands and blade on large side, especially for women workers
- Pick axes – heads blunt and slightly on the small side. Handles too short for effective digging
- Heavy duty rakes – these have not been provided but would be useful. Needs local manufacture. Quantity = 3–4 per site.
- Hammers – OK
- Wheelbarrow – the one seen was not of adequate quality for construction work
- Jump bars/crowbars – not seen

Extension of road beyond end point: it will be difficult to find any route for a road through the village of Murligaon. The downhill side option is not good. It appears that the only feasible option is to skirt around the top of the village and re-join the existing track beyond the village.

Welfare: most workers at the time of the visit were women. There were a lot of children and babies at the site or being carried by women who were working. When we asked why they were not using the site crèche we were told that the children cried there. When I went to check the crèche it was empty. The lady in charge had gone for food.

Site office: the office is good but bare. I would have expected to see site progress records on the wall and a site plan. I asked to see the BOQ and design but these were locked in a drawer and the site-in-charge did not have the key. The following day I was shown the BOQ but was told it was out of date. The project design was not available on site. Overall this did not give a good impression.

Photo 5: CEP workers



Note large number of children and babies with mothers on the site.

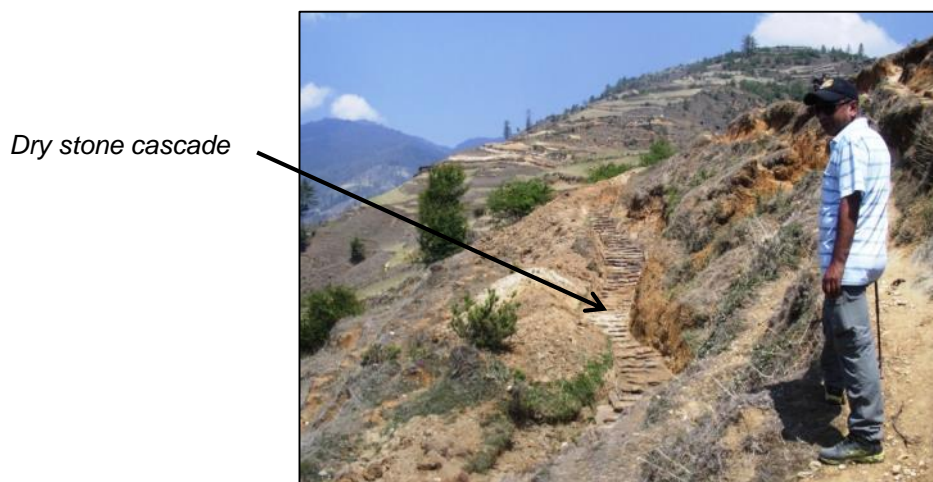
Site sign board: a site sign board acknowledging the KEP and the villages taking part would be good for the profile of the KEP and the morale of workers (note that this applies to all CEP sites).

B.1.3 CEP 3: Jumla

This is an **irrigation project** that extends and improves an existing scheme by connecting three separate sources with sections of new and existing canals. By capturing the three sources, the potential for irrigation will be considerably increased. The total length is about 4.4 kilometres.

From the short section of canal visited, the quality of the work looks good and progress impressive. Much (all?) of the canal will have stone lining and lining work was in progress. The source of stone is a considerable distance from the end of the canal. A mixture of men and women were working.

Photo 6: CEP 3 irrigation canal



The main observations were as follows:

11. The canal is quite steep in places and drops are by chutes with some shallow cascades. Ideally, irrigation canals should provide a slow and steady flow. **On steep slopes the force of**

the water needs to be broken by cascades (steps), stilling ponds (if there is space) and other means such as raised stone checks. Without these measures, I fear that there will be a lot of scour, dislodging of stone soling and consequent high maintenance, also making control of the water for irrigation more difficult.

12. **Haulage of stone** to the section visited was by headload over about 1.5 kilometres. This is highly inefficient. However, the terrain is not suitable for wheelbarrows. A more efficient means of transporting stone should be explored (e.g. using a stretcher carried by two people).

13. **Hand tools** looked acceptable but were blunt (pickaxes).

The site office was not seen.

Photo 7: Haulage of stone and soil



These are not efficient methods of haulage

B.1.4 CEP 2: Kalikot

This is the construction of about 1 kilometre of motorable road taking off from the Karnali Highway towards a village about 3 kilometres away. It replaces a footpath in sidelong ground through a bouldery area.

The amount of work carried out, particularly rock breaking, was very impressive. There was no side drain but I was told this would be added later. A mixture of men and women were working.

The main observations were as follows:

1. There is **no cross fall** on the running surface. This is necessary to shed rainwater and avoid water running along the road surface and forming channels. This is an important detail and difficult to correct later.
2. At the time of the visit a large area of rocks was being excavated. Two groups were working on this. However, the **workers were too close together** for efficient working and for safety. Better organising and spreading of workers is required – I would estimate a minimum of two workers for each 1 metre length.

Photo 8: Rock-breaking team on CEP 2



Workers too close together for safety and efficiency

3. Some rock was very difficult to break. Using **plug and feathers** would have been good and I recommend that we procure these for the future.
4. I am not sure about adding a side drain later. Because the ground is rocky, this might be difficult. An option would have been to have an outward-sloping crossfall (as in the 'green roads' approach). This is probably not achievable now but some consideration should be given to how the **surface rainwater** will be controlled.
5. The overall gradient is satisfactory but there are a series of **waves in the vertical alignment**. This has been a consequence of excavating in very bouldery ground. These waves should be eliminated by cut and fill to the extent possible – accepting that the rocky ground will not make this easy.

Hand tools

- Pickaxes – despite the site using a nearby blacksmith, the heads were blunt. The handles were split, presumably due to digging in rocky ground
- Chisels were of poor quality and very blunt. The type of steel was not tough enough for the conditions. Better-quality chisels would have been justified here
- Hammers were OK but the handles were split

Photo 9: Handtools on CEP 2



Poor-quality chisels

Poor-quality (split) handles on hammers

- Jump bars/crowbars – OK (better-quality steel than the chisels)

Extension of road beyond end point: currently the road ends in the middle of nowhere, although it does provide access to the health post at approximately the midpoint of the existing project section. Provided that the local dispute over the next part of the alignment can be resolved, extension to the first village (approx. 1.5 km) would be sensible in a future phase so as to make the road more useful.

Safety: most workers were wearing helmets but only one was wearing protective goggles. Splitting the rock causes shards of stone to fly and the risk of these going into someone's eye appears high. We were told that the other goggles were not being used because they had got broken. We also understood that they were not popular. However, goggles should be worn by all closely involved with rock splitting, e.g. those holding the chisels. In addition, workers were too close together and this represents a safety risk from swinging hammers and pickaxes, as well as from flying rocks.

Welfare: the crèche here appeared to be working well.

Site office: the office here was good and there are lists of workers and groups on the walls. As for CEP 1, site progress records, a site plan and a standard cross-section on the wall would be improvements.

Photo 10: Rock splitting



Safety goggles should be required for this work

B.1.5 CEP 4: Kalikot

This is an **irrigation project** with canals totalling about 1 kilometre in length. An existing main canal was being improved by a better cross-section and cement-bound stone lining. Two new branch canals leading to stilling ponds were being constructed through a bouldery area. These will significantly increase the irrigation command area.

The **source of water** appears good and the main problem with the existing canal was reported to be loss through seepage. However, even directly below the source only limited use was being made of the existing perennial water supply, which will eventually be directed into the CEP 4 irrigation canal. The reason for this was not clear to me but will be checked by the technical team. We hope that good use will be made of the future supply provided by the new irrigation system.

At the time of the visit, it was **cash transfer day** so no work was ongoing. However, it was clear that an impressive amount of work has been carried out in the relatively short time since the start of the project. The day following the visit, the workers were starting to carry the over 900 bags of cement required for the project from the roadhead to the village.

Photo 11: Cash transfer



The main observations were as follows:

6. The canals are very steep in places and thread between large boulders. As was the case with CEP 3, **the force of the water needs to be broken** by cascades (steps) and other means such as raised stone checks on chute sections and drop sections below chutes.
7. The decision to provide **cement-bound stone lining** to the canals requires a large amount of cement and will take 20% of the budget. Finding sand nearby will also be a problem. Would it have been possible to limit the amount of cement-bound lining and mix this with dry stone lining in some places? Could some other form of lining technology have been used?

Photo 12: New branch canal (partially complete)



Photo 13: Main canal near source

B.2 Lessons learned

B.2.1 Rates of progress

The speed of work and enthusiasm of the workers have been two of the successes of the CEPs. This has partly compensated for the late start of the works. This high motivation on the part of workers is closely linked to the regular two-weekly payment of wages. The frequency and regularity of cash transfers is a new experience for KEP workers. The lessons learned are as follows:

High rates of progress can be achieved with workers who are motivated through a predictable, frequent and reliable cash transfer payment system

High rates of progress can be achieved without the use of machines

B.2.2 Standard of work

Despite the various deficiencies and opportunities for improvement noted above, the standard of work and level of efficiency produced by the CEPs exceeds that of most other comparable public works in the two pilot districts. This has improved the profile of the KEP among villagers as well as lifted the morale of workers. The challenge will be to maintain this standard in the next phase but with less intensive KEPTA inputs. However, the important lessons learned/demonstrated are that:

Good-quality work can be produced by VDC-level workers

B.2.3 Technical training

There has been mixed results from the technical training provided under Phase 1. The technical training that was provided was highly appreciated by the trainees but, in general, it has not yet been translated into best practice during implementation.

B.2.4 Training of KEPTA staff

The feedback from all who had received training from the international trainer, Andreas Beusch, in March/April 2014 was positive. However, due to delays, this training was shorter than was desirable and a universal comment was that it was too short. From the field observations in this report, it is clear that the training given in basic setting out was relevant to the CEP works but it has not been fully applied on site. For example, on CEP 1 the road centreline appeared to be well set out but the side drains had obviously not been set out at all.

The lack of crossfall on the road running surface on both CEP 1 and CEP 2 showed that camber boards/templates, as demonstrated in the training, had not been used. The lessons learned are as follows:

Longer and slightly simpler training is required for site-based KEPTA staff with the inclusion of, for example, practical exercises in setting out (smooth lines) by eye

Refresher training and/or technical seminars for cross learning are required

Photo 14: Use of camber template during training



B.2.5 Training of VDC-level technical staff

The original plan had been to use the CEP sites to train some VDC staff from within the district, but this did not take place due to the late start of the CEPs in Phase 1. However, it is clear that the CEP sites-in-charge would not have had the time or ability to provide such training. Nor would the CEP site supervisors have been capable of supporting such training. The lessons learned are:

Training of VDC-level technical staff by bringing them temporarily to CEPs is not feasible without more experienced staff on site. Other forms of VDC-level technical training should be investigated

A simple manual/handbook is required to remind trainees of lessons learned and assist in training of others, e.g. VDC-level staff

A 'book' of standard details should be produced to guide the standards to which KEP infrastructure should be built

B.2.6 Technical capacity building

Capacity building remains the key to the long-term sustainability of an improved KEP. Therefore, it is important that the technical training continues in Phase 2. **The lessons learned in Phase 1 should be used to improve the effectiveness of this training.**

B.2.7 Site safety

Site safety was one topic covered by the initial training given to all KEPTA staff in early March 2014 in Jumla. However, during the field visit to the CEP sites there were many instances noted of hazardous working. These included:

- Failure to wear safety goggles by workers involved in rock splitting;
- Workers being too close together, risking injury from swinging pickaxes and hammers; and
- Children and babies close to the site works.

These are all issues that had been discussed during the training. The lessons learned are:

Repeat site safety training is required together with reminder safety notices on site

A further proposal would be to start each work day with a five-minute safety briefing during which workers, group leaders and supervisors discuss the current site safety issues

B.2.8 Maintenance

The failure to maintain physical infrastructure is the most common reason for not realising the expected benefits of public works improvements. This is an important risk in terms of KEPTA support to the KEP. If the physical condition of the roads and irrigation canals constructed under the CEPs is not sustained, the intended transformations in travel patterns, agriculture and the use of social facilities such as schools and health posts will not take place. Despite the critical importance of maintenance, it is frequently accorded secondary importance to the initial improvement of infrastructure. In addition, the concept of maintenance as a preventative activity is not well understood by local people and politicians. Hence, there is a high risk it will be neglected.

It was too early during the visits to the CEPs to assess whether maintenance will or will not be carried out. For this reason, this has not been included in the field observations chapter. However, the main comments are as follows:

- The maintenance of irrigation systems is relatively less of a problem than of roads. This is because:
 - It is a closed system with a well-defined group of beneficiaries;
 - The beneficiaries – i.e. the farmers – have a vested interest in maintaining the system; and
 - When irrigation water is flowing, problems that occur are quickly identified and can be remedied.
- In comparison, the maintenance of roads can be a problem because:
 - It is a public good used by local people and travellers passing through;
 - It is difficult to get passing travellers to contribute to maintenance; and
 - Often, poorer people in the community who use the road less frequently are required to contribute disproportionately to the upkeep of the road (mainly through voluntary labour).

B.2.9 Recommendations for maintenance

The main recommendations for CEP maintenance are these:

- For the irrigation schemes:
 - Ensure a farmers group is in place that can take responsibility for maintenance;
 - Remind this group of their original obligation to undertake maintenance; and
 - Give some basic instruction and guidance to the group on how to carry out preventative maintenance.
- For the road projects:
 - Establish or identify a community-based group that will be responsible for ensuring road maintenance is carried out;
 - Remind the community through this group of their original obligation to undertake maintenance (note that this applies to all the beneficiaries and not only those who worked on the road); and
 - Give some basic instruction and guidance to the group on how to carry out preventative maintenance.

B.2.10 Organising maintenance

The options for organising and carrying out the maintenance are as follows:

- **Continuous (routine) maintenance:** the best form of maintenance is the continuous correction of minor defects. For example,
 - Repairing canal bunds where they are beginning to lose their original shape;
 - Repositioning dislodged stones in dry stone walls or stone soling;
 - Filling small depressions in road surfaces and removing obstacles such as stones that have fallen onto the road; and/or
 - Clearing debris from canals and roadside drains before they cause a blockage.

This requires a low level of regular input and is cost-effective. It is typically organised by engaging individuals or small groups to maintain a specified section of the infrastructure. This can be carried out daily but at the level of the KEP-type infrastructure might more typically be one day a week. The drawbacks are that this individual or small group needs to be rewarded, usually through cash payment, and communities find it difficult to mobilise such funding themselves on a continuous basis. Moreover, the workload will vary in different seasons. For example, the road maintenance requirements may be low in dry weather and increase significantly during or just after the monsoon season.

- **Intermittent maintenance:** The alternative to continuous maintenance – which may not be as effective but overcomes some of the problems with continuous maintenance – is intermittent maintenance. This covers the same activities as for continuous maintenance but at intervals that may be as infrequent as once per year. It involves a high level of input over a relatively short period of time. One of the advantages is that all beneficiaries (for roads, at least those living nearby if not travellers) can be involved through the provision of voluntary labour. For example, each household or each beneficiary farmer can be required to provide a certain number of days per year for carrying out the maintenance. The organising committee can fix certain maintenance days that fit into a period when there are few other local activities. **The system works well as a community effort and may be the best starting point for KEPTA.**

B.2.11 Maintenance as a KEP activity

Maintenance in general provides regular, repetitive work that can to some extent be accommodated in seasons of low farming and other activity such as the winter season in Karnali. Therefore, a more radical approach to infrastructure maintenance would be to treat this as a KEP activity and thus as **part of the paid employment guarantee**.

Taking as an example the network of local roads and foot trails, these are extensive in Karnali and of local economic importance. Maintenance of these could potentially provide employment for a significant group of people on a regular basis. By confining KEP activities to roads and trails under the VDCs, this would be complementary to the work being carried out by DDCs as well as by Rural Access Programme 3 in Jumla.

If foot trail and local road maintenance was combined with minor improvements (e.g. road/trail widening, adding small dry stone walls, adding side drains, etc.) this could provide work for some months each winter.

Something of the order of 50 person days per kilometre per year for VDC roads and 20 person days per kilometre for foot trails would be an appropriate average. According to the district transport masterplans for Jumla and Kalikot, there are 67 kilometres of village roads in Jumla and none in Kalikot. This obviously does not include the large number of 'tracks' to which we should also add the even larger number of foot trails. Assuming that there is on average about 3 kilometres of track and 10 kilometres of foot trails per VDC in Jumla and 0.5 kilometres of track and 15 kilometres of foot trail per VDC in Kalikot and 30 VDCs in each district, the table below shows the potential employment creation through track and trail maintenance.

Table 3: Estimate of employment creation potential in track and trail maintenance

	Length km	p-days/ km/yr	p-days/yr
Jumla			
Tracks	90	50	4,500
Trails	300	20	6,000
	Sub-total		10,500
Kalikot			
Tracks	15	50	750
Trails	450	20	9,000
	Sub-total		9,750
	Total for 2 districts		20,250

As can be seen from the table, around 10,000 person days per year of employment could be created in each district. At a level of employment guarantee of 60 days per year, this would create employment for over 160 households per district every year.