Sida Evaluation 97/17

Pahal Project – India

Participatory approach to human and land resource development

P Bharati
M E S Flint
M K Shah
T F Shaxson

Department for Natural Resources and the Environment

Pahal Project - India

Participatory approach to human and land resource development

P Bharati
M E S Flint
M K Shah
T F Shaxson

Sida Evaluation 97/17
Department for Natural Resources and the Environment

Sida Evaluations may be ordered from:

Biståndsforum, Sida
S-105 25 Stockholm
Phone: (+46) 8 698 5722
Fax: (+46) 8 698 56 38

Author s: P Bharati M E S Flint M K Shah T F Shaxson

Sida Evaluation 97/17
Commissioned by Sida, Department for Natural Resources and the Environment

Registration No.: NATUR-1996-0038/76
Date of final report: January 1997
Printed in Stockholm, Sweden, 1997
ISBN 91 586 7485 3
ISSN 1401-0402

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
Telegram: sida stockholm. Telex: 11450 sida sthlm. Postgiro: 1 56 34-9
Homepage: http://www.sida.se

EVALUATION REPORT

PAHAL PROJECT, RAJASTHAN, INDIA

(DUNGARPUR INTEGRATED WASTELAND DEVELOPMENT PROJECT)

JANUARY 1997

P.Bharati
M.E.S.Flint
M.K.Shah
T.F.Shaxson

PREFACE AND ACKNOWLEDGEMENTS

The evaluation team is very grateful for all the help and hospitality provided by PAHAL project staff, villagers, and the resident consultant during the period in Dungarpur, and by the DCS staff in Delhi.

Useful comments on the first draft were provided by PAHAL and Sida. This revised report has taken these into account where possible, and subject to the availability of information. Any remaining errors of omission, commission and judgement in this report are the responsibility of the evaluation team alone.

EXECUTIVE SUMMARY

The Project

1. The PAHAL project (Participatory Approach to Human and Land Resource Development) is located in Dungarpur District in southern Rajasthan, and has been supported by the Government of Rajasthan (GoR) and Sida since 1992. The total Sida commitment was SEK 80 million (Rs. 40 crore). GoR has contributed ten percent of the local costs.

2. The project lacks clear and agreed objectives (1.3). According to the revised Plan of Action (PoA) the overriding purpose is to strengthen sustainable land use management for local economic development; to contribute to socio-economic development in Dungarpur District; and to inform operational policy development within rural development in Rajasthan.

3. The main activities of the project are Human and Institutional Resource Development (HIRD) and natural resources activities : soil and water conservation (SWC), forestry, agriculture, and animal husbandry. Over 40% of the budget has been spent on SWC works, mostly earth bunds. The effective rate of subsidy for these works is 100% (4.14).

The Evaluation

4. The purpose of the evaluation is to provide information to the GoR and Sida on the development of the project to date, on its relevance in a wider rural development perspective, and to give recommendations on possible reorientation/adjustments of the project in order to increase its impact.

5. The evaluation was carried out by four independent consultants over a three week period in September 1996. The evaluation involved workshops with project staff, visits to project and non-project areas, and discussions with villagers,

both individually and in groups (2.3-5).

Relevance

6. The general focus of the project - sustainable land use management - is highly relevant (3.2). The temporary local employment created by PAHAL has also been very beneficial, especially during the 1995-96 drought year (3.9).

7. The specific relevance of project activities to long-term livelihood needs is more arguable. No livelihood or farming systems studies have been carried out by the project. It is likely that, without the high subsidies, people would have different priorities from those set by the project (3.10).

8. The project is consistent with GoR policies and is relevant to questions about the delivery of government support to tribal areas (3.12-13). The project is also consistent with Sida'a policy and strategy in India (3.14-15).

Project implementation

9. The registration of PAHAL as a society has given it a useful degree of independence and flexibility, and has allowed it to introduce a number of procedural and organisational innovations. Villagers now compare PAHAL very favourably with other departments (4.2). PAHAL's flexibility makes it even more important that the objectives are clear and agreed, and that there is an effective planning and review system involving GoR and Sida (4.4).

10. PAHAL has benefited from the competence and commitment of its staff. It has, however, proved difficult to attract more experienced staff. A review of staff contracts, pay and conditions is required (4.5-7).

11. HIRD has been a very important and beneficial component of the project. The major emphasis on physical works may have reduced the relative importance of HIRD, but this is denied by staff. Attention needs to be given to the training methods and content, and to wider institutional development at the village level (4.8-11).

12. While the project has been relatively participatory in its approach, and has become more so in the last year, there is scope for increased participation. The high subsidies provided for a limited, externally-determined menu of activities constrain participation as well as undermining people's initiative and self-reliance. More emphasis on the development of functional village institutions (not just Village Level Committees - VLCs) is required (4.16-23).

13. The continued focus on women's involvement and awareness has lead to real progress : women are more visible and confident than before (4.25-27). A similar social strategy and awareness seems to be lacking. While the project has been inclusive rather than exclusive, there has not been any systematic social monitoring. The extent of any differential impacts is thus unknown (4.28-31).

14. The standard recommendations for natural resources activities are technically sound and have generally been followed. However, the rapid expansion of SWC works in the past year, coupled with the organisational changes, has lead to a lack of quality control in some cases (4.32-33).

15. Micro-level plans (MLPs) have been produced, but most are of limited value or use. There is a need to reintroduce an participatory local planning process as an integral part of the project (4.34).

16. The agriculture programme has not kept pace with the

construction of SWC works. It has tended to promote standard departmental recommendations, the local appropriateness of which is arguable, rather than being based on a participatory study and analysis of the land-livelihood system and practices (4.35-38).

17. NGOs have played an important and positive role. Some concern was expressed about the apparently diminished influence and independence of NGOs within the project (4.39-44).

18. The original (1991) and revised (1995) PoAs are detailed but unclear guides to implementation. The problem of unclear objectives have been compounded by an inadequate annual planning and review system. Accountability to GoR and Sida needs to be improved (4.45-48).

19. An effective and reliable monitoring and evaluation system is still lacking, despite agreement on its importance from the outset. An appreciation by the project of the necessity and value of reliable M&E information, and of the M&E skills required, is a prerequisite, as are clear objectives and performance indicators (4.49-51).

20. Supporting research and investigation has been limited, probably for similar reasons : project staff have not been convinced that it is necessary. The risk is that, without research, the project is based on untested and perhaps questionable assumptions. Little is known about the realities of the land-livelihood system which the project is trying to improve (4.52-56).

21. The resident adviser has made an important contribution, especially during the formative stages. The role of the consultant has, however, become increasingly difficult and marginal, and needs to be rethought (4.57-59).

Effectiveness

22. Achievements have been assessed against the objectives in the revised PoA, which are the best available. Limited M&E information has made assessment difficult.

OBJECTIVE	ACHIEVEMENT
Operational objectives (Results) :	
1. Local planning, implementation and management capacity established	VLC implementation and management capacity increased. Little development of planning skills.
2. Unequal access to natural resources mitigated	No monitoring data. Effect on access for poor at least neutral and probably positive.
3. Potentially productive land identified and rehabilitated	Positive achievement likely, but extent, quality and impact of land development uncertain.
4. Existing ecologically sound and economically viable systems of land use strengthened.	Lack of information on local land use systems, but some positive achievement likely.
New methods/approaches developed	Significant organisational and procedural innovation. Little development of technologies or participatory approaches.
Aims :	
Natural resources regenerated and sustainably used by the rural poor.	Productive use of some natural resources (eg. grass and water) increased. Benefits widely spread within villages. Sustainability unknown.
Policy, planning and implementation of larger government and NGO natural resource and wasteland development programmes in Rajasthan improved.	Conflicting views, but possibly some influence on thinking within other GoR departments.
Physical resources mobilised for the people through self-reliant, self-sustaining and self-generating activities.	Difficult to interpret. Not assessed.

23. Data are very limited, but it would appear that the results of the project could have been achieved at lower cost. Lower subsidies would have increased cost-efficiency and

sustainability (5.23-27).

Impact

24. Forestry plantings that are well managed and protected have had a visible and positive impact, even if the area covered is still relatively small. The assumed beneficial effects on fodder, soil and water need to balanced against possible external costs, such as on unprotected grazing areas, or where tree roots extend into the local water table (6.2-8).

25. The project estimates that SWC works have been completed on 15,441 ha. of land since the start of the project. There is no detailed survey or case study information on the quantity, quality and impact of SWC works. Soil traps/stone checkdams have been effective in rehabilitating gullies and creating new cultivable land. Some positive impact on the area and mix of crops may be expected (6.9-11).

26. The technical quality of the earth bunds is mixed. Bunds constructed exactly on the contour may have some positive impact on yields in the ponded area. However, yields need to increase by at least 11-15% to counteract the area lost to bunds. The benefit of non-contour bunds is questionable, and could be negative (6.11-16).

27. People have benefited considerably from the seasonal employment created by the project, particularly during the 1995-96 drought year. Seasonal migration to Gujarat was reported to have been much reduced. However, there is no strategy for maintaining this impact once the physical works are completed. The risk is that the large subsidy payments (averaging 7 lakhs per village) have only provided short-term benefits (6.20-26).

28. The costs and benefits of the SWC work are uncertain. It

is likely that the unit costs are higher, and the economic benefits lower, than assumed by the project. Some SWC (eg. soil traps in gullies) will be highly profitable. The economic justification for much of the upland bunding, and particularly the non-contour bunds, is less certain given the lack of quantified and comparative data (6.30-33).

29. Well maintained forestry plantings on good sites should be profitable. An unknown proportion of the plantings do not fall into this category.(6.34-35).

30. Evaluation of the livestock programme is also constrained by a lack of information. The economic viability of the heifer project may be more marginal than assumed, and needs to be reassessed once more reliable data on the trial is available (6.36-37).

31. The cost-effectiveness of the project is doubtful. High subsidies, unlimited funds, a limited menu of options, and sometimes poor technical control has encouraged some physical works of doubtful economic benefit, albeit of significant short-term financial benefit to villagers (6.38-41).

32. PAHAL is likely to have some impact on other government and non-government institutions, although this is not yet visible. The Village Level Committees (VLCs) established by the project are taking on increased responsibility (6.42-45).

Sustainability

33. Sustainability is difficult to judge at this early stage. Some features of the project are supportive of sustainability. These include the presence of the NGOs, the registration of PAHAL and VLC/VLOs as independent Societies, the emphasis on training, and the all-inclusive approach at village level (7.9; 7.16).

34. Other institutional factors will work against sustainability (7.17-20). Most importantly, if a significant part of the works and participation have been primarily motivated by subsidies, sustainability is likely to be limited (7.8; 7.15).

Replicability

35. The dependence of the project on costly subsidies and, to a lesser extent an outside donor, will limit replicability (8.2). The extent to which aspects of PAHAL can be transferred to other organisations will also vary. Some features of the approach are relevant to Government departments, but might require more flexibility and autonomy than is yet achievable within government (8.3-4). The geographical expansion of PAHAL within Dungarpur District would be easier, but is not recommended (8.5). Replication in other Districts would be possible, subject to the proviso that PAHAL is not yet a proven model, and would need to be developed anew in a new context (8.6-8).

Conclusions

36. PAHAL represents a relevant and innovative project. Its objectives were ambitious, unclear, and possibly conflicting. A considerable amount has nevertheless been achieved.

37. Compared with other government agencies, PAHAL is a relatively effective, participatory and transparent GO/NGO delivery agency. It scores highly as an employment generation/welfare project.

38. As a development agency aiming to improve livelihoods and land-use over the longer term, PAHAL's achievement is more uncertain. It has not yet developed innovative approaches which are likely to have a significant sustainable impact on

livelihoods in tribal areas.

39. Increasing the long-term impact of PAHAL will require a change of approach. A more skill-intensive, exploratory, participatory, lower subsidy approach in a smaller number of villages arguably is required. Potential sustainability and replicability should be key indicators of success.

40. Another option is to develop PAHAL as an alternative delivery agency for government funds and services, possibly on a larger scale. This would require fewer changes in staffing and approach.

Recommendations

41. Recommendations are contained in Section 10. The main recommendations are that :

- the project should be continued into a second phase, but with some significant changes in approach.

- high priority should be given to the establishment of an effective monitoring and evaluation system.

- Sida should support an early visioning workshop to begin the process of designing a second phase. This needs to be based on a reliable and participatory problem analysis, upon a better understanding of local land-livelihood systems, and upon the participatory selection of issues for priority work.

CONTENTS

Annexes

ABBREVIATIONS

CLP	Common Land Plantation
DCS	Development Cooperation Section, Embassy of Sweden
DIWDP	Dungarpur Integrated Wastelands Development Project
DRDA	District Rural Development Agency
GO	Government
GoI	Government of India
GoR	Government of Rajasthan
HIRD	Human and Institutional Resource Development
LFA	Logical Framework Approach
M&E	Monitoring and Evaluation
MLP	Micro-Level Plans
NGO	Non-Governmental Organisation
OIC	Officer in Charge
OJT	On the Job Training
PAHAL	Participatory Approach to Human and Land Resource Development
PLP	Private Land Plantation
PoA	Plan of Action
Sida	Swedish International Development Cooperation Agency
SC	Soil conservation
SWC	Soil and water conservation
WD&SC	Watershed development and soil conservation
TAD	Tribal Area Development
VLC	Village Level Committee
VLO	Village Level Organisation

1. PROJECT BACKGROUND

1.1 The agreement to support the Dungarpur Integrated Wastelands Development Project (DIWDP) was signed between the Government of India and the Government of Sweden in March 1992. The project was later renamed PAHAL (Participatory Approach to Human and Land Resource Development).

1.2 The PAHAL project is located in Dungarpur District in southern Rajasthan. Dungarpur is the smallest and least developed District in the State, which is itself one of the most under-developed States in the country. The District is characterised by a predominantly tribal rural population; a largely deforested and in many areas degraded landscape; and a high degree of dependence on unreliable, low productivity agriculture, seasonal out-migration for wage employment, and government assistance programmes. As part of the Tribal Sub-Plan Area, Dungarpur receives an increased allocation of GoR and GoI funds.

1.3 The project has lacked a concise list of clear, agreed objectives. There never has been, and still is not, agreement on precisely what the project was trying to achieve, either in the short or long term. The project agreement, original Plan of Action (1991), revised Plan of Action (1995), and Terms of Reference for this evaluation (Annex A) all contain a large number of overlapping but often differently stated project objectives. The original PoA contains no less than 25 general, ecological, land use management, and rural development objectives. Apart from making evaluation difficult, the evaluators conclude that this has inevitably reduced the effectiveness and impact of the project.

1.4 In the absence of a single and agreed statement of objectives, the aims and objectives as stated in the revised PoA have been used as the main basis for this evaluation. According to the revised PoA, the project has a threefold role (PoA, 1995, p.1) :

- **socio-economic development** of Dungarpur District through a focus on the regeneration of natural resources and their sustainable use by the rural poor through participatory approaches.
- **institutional development** at the village level.
- **operational policy development** through the exploration of feasible and cost-effective approaches to environmentally degraded areas.

1.5 The project is now implemented by a Registered Society - PAHAL. PAHAL has a staff of over 100, most of whom are seconded from government or local NGOs. The project is currently active in 135 villages in all the five Blocks which

comprise Dungarpur District. It has two main components : Human and Institutional Resource Development (HIRD), and physical (natural resource) activities.

1.6 HIRD activities have been an important component of the project from the start, and were further emphasised in the revised Plan of Action (PoA). Training has been provided for government (GO) and NGO staff, Village Level Motivators (VLMs), and members of Village Level Committees (VLCs). Large numbers of village level meetings, awareness camps, seminars, workshops, and study tours have also been organised (see para. 4.8 onwards).

FINANCIAL EXPENDITURE, NOVEMBER 1991 - JULY 1996 (Lakh Rs.)

Component/Activity	Lakh Rs.	%
1. Physical activities :		
- Forestry	313	25 %
- Agriculture	38	3 %
- Soil and water conservation	540	43 %
- Animal husbandry	23	2 %
sub-total	*914*	*72 %*
2. HIRD activities	105	8 %
3. Supporting activities	10	1 %
4. Establishment	186	15 %
5. Transport	51	4 %
6. Contingency	1	
TOTAL	1267	100

1.7 Physical activities account for almost three-quarters of project expenditure (see Table above). Four main activities are supported : soil and water conservation (SWC), forestry, agriculture, and animal husbandry. Each of these is promoted by a combination of technical support from the project, HIRD, and subsidy payments. SWC has been by far the most activity in terms of expenditure (60% of physical activities).

1.8 The total Swedish contribution to the project was originally set at SEK 80 million (Rs. 40 crore), of which SEK 70 million was for local costs. Ten per cent of the total local cost budget has been provided by the Government of

Rajasthan (GoR). Total local expenditure up to July 1996 amounted to Rs. 1,267 lakhs (SEK 25 million). As at 2 September 1996, around two-thirds of the total Sida commitment had been spent.

1.9 From the outset in 1992 the project has been guided by a number of key principles and strategies : a geographical concentration on those areas most severely impoverished due to environmental degradation; a focus on the rural poor, and particularly women; the need for a diverse, decentralised, participatory, and interdisciplinary approach; and an emphasis on human and institutional resource development (HIRD).

2. THE EVALUATION

2.1 The agreement to support DIWDP (PAHAL) originally extended from November 1991 until March 1996, and included provision for an independent evaluation in 1995 or 1996. The project has now been extended until March 1997, in part to allow this evaluation to take place. An evaluation originally scheduled for April/May 1996 had to be postponed due to the General Elections.

2.2 The Terms of Reference (TORs) for the evaluation are contained at Annex A. These state that the general purpose of the evaluation is to provide information to the Government of Rajasthan and Sida on the development of the project to date, on its relevance in a wider rural development perspective, and to give recommendations on possible reorientation/adjustments of the project in order to increase its impact.

Evaluation approach and methods

2.3 The evaluation was carried out by over a three week period in September 1996. The evaluation team consisted of four independent consultants :

Ms Bharati P.	- Government and institutions.
Mr Michael Flint	- Natural resources economist and Team Leader.
Ms Meera Shah	- Participatory development.
Mr Francis Shaxson	- Land husbandry and soil & water conservation.

2.4 The evaluation involved four main stages : a briefing by Sida in Stockholm for the Team Leader; a review of all available project documentation; initial meetings in New Delhi with the Development Cooperation Section (DCS), Ministry of Environment and Forests, and others; and a period of fieldwork, workshops, and discussions in Dungarpur between September 4 - 21. The UK members of the team left India on September 23 after further discussions with DCS. The list of persons met and material consulted are contained in Annexes B, and C respectively.

2.5 Two workshops were held with senior project staff as part of the evaluation process. Meetings were also held in all the Block offices. Discussions were held with people in project villages in order to understand their perceptions about the project, their analysis of the Project, and their visions for the future. Participatory appraisal techniques were used to enable the villagers to analyse these issues. The evaluation team also had the opportunity to meet members from different VLCs in groups at the Block level. At each block the project team was asked to categorise all the villages they work in according to the performance of the VLOs, and then to

select representative villages from each category. Most of these selected villages, and some randomly selected villages, were visited by members of the evaluation team to see the physical activities being supported by the project and to have discussions with the people participating in these activities. This ensured that the external evaluation process was supplemented with, and informed by, self-evaluation by project staff and villagers.

Limitations

2.6 The positive and open attitude of project staff, and the extent of logistical support provided, greatly facilitated the evaluation process. However, the evaluation was made more difficult by two factors : the lack of clear and agreed project objectives already mentioned, and the lack of monitoring and evaluation data.

2.7 The evaluation had intended to make use of the Logical Framework Approach (LFA). However, the uncertainty over the objectives, coupled with the unfamiliarity of most of the project staff with LFA, meant that its use as an evaluation tool was neither sensible nor possible in this instance.

2.8 The lack of an effective monitoring system within the project is discussed in more detail below (4.49). From an evaluation point of view, the absence of basic monitoring data relating to the quantity and quality of project activities was a major limitation. In the absence of process monitoring or the regular collection of physical data, any explanation of changes over time, or variations in improvements between areas and groups, is necessarily circumscribed. The lack of reliable internal evaluation studies further reduced the availability of objective information on which this evaluation could draw.

2.9 Project staff made considerable efforts to collate available data for the evaluation team, and to facilitate field visits and discussions with village people. However, the limited time available for fieldwork meant that it was not possible to do more than make 'snapshot' observations of different activities and situations, with the associated uncertainty about the representativeness of each observation. Limited time also forced a concentration on Dungarpur, Bichhiwara and Aspur blocks, and meant that discussions and visits in the other two blocks were even more limited. More generally, the fact that the evaluation team only visited Dungarpur District once meant that it was not possible to experience the dynamics of land use systems over an annual cycle. This made it more difficult (in absence of reliable monitoring data) to know how significant and permanent the effects of project interventions have been on natural resource features, farming systems and livelihoods.

2.10 The evaluators are aware that this report concentrates on the recent history of the project. It does not adequately describe the changes which have occurred over the life of the project, nor give sufficient weight to the difficulties encountered, and progress made, in the earlier part of the project.

2.11 The lack of objective information on the project, means that, more than most, this evaluation is based on judgement and opinion of those consulted by the evaluators, and of the evaluators themselves. Many different points of views were encountered. Differences of opinion also existed within the evaluation team. The net result is that it has not always possible to reach a common viewpoint within this report.

3. RELEVANCE

How relevant/consistent was/is the project to the problems, visions, policies, priorities and activities of different stakeholders ?

3.1 This section assesses the relevance of the project from a natural resources perspective, and in relation to the policies and priorities of the three major stakeholders : the tribal people of Dungarpur District; Government of Rajasthan; and Sida. In each case it is important to distinguish between the general relevance of the programme as designed, and the specific relevance of individual activities as implemented. A potential conflict between short-term and long-term priorities may also exist.

Natural resources

3.2 The original PoA was based on the assumption that `large scale degradation of all types of land in the district has taken place' (PoA I, 4.1). While the extent to which current land use practices are universally destructive and unsustainable may be questioned, there is no reason to doubt the potential and need for improvements in the productivity of land and in the systems of land use (Annex D 2-7). The general focus of the project on sustainable land use and management is therefore highly relevant.

3.3 The specific relevance of the natural resources activities is more difficult to judge. In general terms, the mix of project activities is appropriate, even if the balance between activities, and the content of the activities, need to be reassessed. In particular, the agriculture programme has tended to be overshadowed by the SWC programme. The latter had originally been envisaged in a supportive, rather than overriding, role (see Annex D.10). SWC activities by themselves will not be enough to ensure increases in agricultural productivity or to ensure sustainable agricultural practices. The project has not yet been able to develop sufficiently an agricultural productivity improvement programme to complement the SWC activities.

3.4 The project is consistent with the need to increase the stability of micro-watersheds, and with the traditional system of subdividing land areas by the 'pani-dol' method into very small topographic catchments above an individual's house or tillage plot. By subdividing the National Watershed Development Programme's 1,000-5,000ha. micro-watershed unit into 50-60ha. units, project activities have been made more appropriate to the scale of activities and physical horizons of villagers.

3.5 The project has addressed the need for more cattle fodder, which appears to be a major constraint within the farming system. However, this is more by chance than by design, and the potential for a coordinated approach to increasing fodder supplies is currently hampered by the fact that three disciplines (SWC, Agriculture and Forestry) have different responsibilities in this area (D.15).

3.6 In some other respects the relevance of the natural resources activities is less certain. For example, it is not clear to the evaluators that the lack of SWC measures is the primary constraint on land or household productivity. Shortages of manure, livestock, and increasingly fragmented landholdings may be more critical problems for some households. However, without a detailed analysis of the agro-ecology and farming systems - which has never been done - it is only possible to raise these as questions which need to be addressed by the project.

People

3.7 It is important to distinguish between the short-term and long-term relevance of the project. As a short-term, employment-creation project PAHAL is very relevant to people's needs. The extent to which project activities fit with people's long-term livelihood priorities is more questionable.

3.8 Discussions with people in project villages confirmed that agriculture and migratory wage employment are their two main sources of livelihood, especially for the economically weaker sections of the community. The risk-prone nature of agriculture and the small size of household land holdings in the area means that dependence on migratory and seasonal wage employment increases during the drought years. Migratory wage employment is not a preferred livelihood option for the people. Respondents therefore placed high priority on water conservation and improved agricultural productivity as a way of reducing the extent of migration.

3.9 It is possible that these responses were influenced by the short-term employment benefits provided by SWC and forestry works. SWC and Private Land Plantations (PLP) activities have provided a major source of temporary local employment to the villagers, thereby reducing or removing the need to migrate during the dry season. This was a very significant benefit during the 1995-96 drought year. The distorting effect of the employment subsidies provided by

---

Although the project claims to be focusing its efforts mainly at SC, most of these measures (like field bunding and soil traps) are seen by the people as water harvesting or water conserving structures. People place far more importance on *in situ* moisture retention rather than soil conservation.

PAHAL therefore makes it very difficult to assess the true long-term relevance of the project activities. As has been found elsewhere, it may well be that people are more interested in the dry season employment than in watershed development activities (Kerr et al,1996)[2]. The fact that villagers are highly appreciative of the subsidies and short-term employment benefits is no guarantee that PAHAL is supporting activities that are relevant to their long term livelihood needs. People may in fact have a very different priorities than does the project (D.7-9).

3.10 The main doubts concern the prioritisation and type of work undertaken by PAHAL, and the exclusion of some issues of concern from the menu of activities. No livelihood or farming systems studies have yet been carried out by the project. However, the consultant's report to the mid-term review suggested that villagers attach higher priority to animal husbandry and agriculture, than they do to forestry and SWC. Project activities do not reflect this. Priority areas such as health and drinking water are also excluded from the project. While the evaluators were not able to reach a consensus on this point, there are grounds for questioning the longer term relevance of project activities.

Government of Rajasthan

3.11 The project was designed to meet two priority GoR/I concerns : the need for increased support to forestry and wastelands development in general, and the desire to improve the welfare of tribal people in particular. To this end the project was, and remains, highly relevant.

3.12 As now implemented, PAHAL is consistent with the following GoR priorities as described in the Eighth Five Year Plan : the reduction of regional disparities through a focus on the development of backward areas; poverty alleviation, particularly in tribal areas; women's development; the watershed approach to land development work; participatory approaches to rural development; local management of natural resources; and human resource development.

3.13 These generalisations aside, PAHAL is particularly relevant to two questions of interest to GoR, and to GoI more widely : how can services and subsidies best be delivered to tribal areas, and what should those services and subsidies be for? These questions are, of course, related. At the risk of over-simplification, the conventional model involves the top-down delivery by line departments of a predetermined, highly subsidised, labour intensive, package of orthodox

---

[2] J.M.Kerr et al : Subsidies in watershed development projects in India : distortions and opportunities. IIED Gatekeeper Series No.61 (1996).

interventions to a small number of `target' villages. The leakage of funds is an acknowledged problem in other programmes, and the long-term benefits of much of this expenditure is at best uncertain. However, this model is changing and is set to change further. Government is increasingly aware of the limitations of government machinery; of the benefits of non-government agencies; and of the need for greater target group participation. The PAHAL example represents a highly relevant test of an alternative approach to the delivery of government services and subsidies and, potentially at least, could inform the type and manner of expenditure in the natural resources sector.

Sida

3.14 PAHAL is in line with the high priority attached by Sida to addressing the linked problems of poverty and environmental degradation. An early Sida publication on the links between poverty, environment and development emphasised that many of the poor tend to be found in environmentally sensitive low potential areas (Sida, 1991)[3]. The same publication identified a number of key characteristics for successful project initiatives : these should emphasise the implementation role of NGOs; begin small and simple; be flexible in design, and of medium to long duration (5+ years) ; build on local knowledge and existing social organisation; make use of locally available resources and technologies; involve women in their role as resource managers; and be multi-sectoral (SWC, forestry, agriculture and livestock). Most of these characteristics can be found in the DIWDP/PAHAL design.

3.15 PAHAL is also very much in line with more recent Sida policy statements. Sida's action programme on sustainable development identifies the sustainable use of land and forest, and soil conservation, as one of the seven special priority areas (Sida,1996). The recent mission by the Department of Natural Resources and the Environment (NRME) identified land husbandry for rural development as one of three major focal areas for continued Swedish cooperation in India (Sida,1996).

3.16 While PAHAL is consistent with Sida policy at a general level, the high subsidies which characterise the project are inconsistent with Sida experience elsewhere. This experience supports the view that high subsidies for soil and water conservation are inefficient, unnecessary, and undermine self-reliance.

---

[3] J.Holmberg : Poverty, environment and development - proposals for action. Sida (1991)

4. PROJECT IMPLEMENTATION

What has been the quality and efficiency of the activities and process as implemented, compared with the intentions in the Plan of Action (original and revised), other similar programmes, and best practice ?

Project organisation

4.1 PAHAL as an organisation exhibits a number of unique and innovative features. Some of these were built in as part of the project design, while others have developed during implementation. The key features of the design which have been carried through into implementation include the collaboration between government and NGOs; the multidisciplinary and participatory approach; the emphasis on HIRD and the involvement of women; and the stress on decentralisation to the village level.

4.2 PAHAL has also managed to develop a number of these features during implementation, and has introduced some significant procedural innovations. The most significant changes have occurred since the revised PoA, and are closely associated with the legal registration of both PAHAL and the VLO/VLCs as independent Societies. This has given PAHAL a greater degree of independence and flexibility, and has allowed it both to simplify its procedures and to devolve responsibility to the Block and village level. Procedures for implementing and measuring physical works have been greatly simplified, and much of the administrative work has been devolved to the VLC. Responsibility for the sanctioning and payment of physical works has been passed from headquarters to Block level. The beneficial results of these changes are evident from reports that other (non-PAHAL) villages compare PAHAL very favourably with other departments, with less leakage, greater transparency, greater participation and more training. The role of NGOs and of VLC/VLO's appears to be key.

4.3 PAHAL has generally used its flexibility to good effect. As already mentioned, the project has introduced a number of procedural and organisational innovations. However, the extent to which project staff at all levels have been encouraged to try out different approaches in response to local circumstances and experiences is unclear. It would also appear that the project has been more innovative in its procedures and organisation than in its physical activities (SWC, forestry, agriculture and livestock).

4.4 The flexibility available to the Project Director to change practice and procedures, and to allocate funds between activities without constraint, have given the project a marked advantage over the other line departments. However, such

flexibility also carries risks. In the absence of an effective planning and review system, there is a risk that the direction of the project may diverge from that intended by GoR or Sida. This issue is discussed further below (4.45).

Staffing

4.5 The staffing of the project has exhibited both strengths and weaknesses. The appointment of IAS officers as Project Director has provided effective leadership and good linkages with other line departments, the District Collector and senior government officers in the Tribal Area Department (TAD). This has been a major asset for the project. PAHAL has also benefited from the competence and commitment of its government and NGO staff.

4.6 However, staff competence in general has been limited by the unpopularity of Dungarpur as a posting for government officers. This has made it difficult to recruit staff with the necessary skills and, unless addressed, will continue to constrain the development of the project. Attracting women staff on deputation from other government departments has not been easy for similar reasons.

4.7 The registration of PAHAL as an independent organisation has made it easier to recruit contract staff. Over one-third of project staff are now on contract. These staff are paid significantly lower salaries and allowances than are government staff, and generally only have three month contracts. PAHAL is planning to issue longer contracts from now on. The pay and allowances of contract staff should also be reviewed in the context of a wider review of remuneration levels. There is a need to minimise differentials between government, NGO, and contract staff as far as possible, and also to offer salaries which will attract more skilled staff to the project. One way of doing this might be to upgrade project posts, so that government officers receive a significantly increased salary while they are attached to the project.

Human and Institutional Resources Development (HIRD)

4.8 The project has placed much greater emphasis on HIRD activities compared with other government programmes. In the period 1991-July 1996 the project has organised 2,709 village level meetings, 225 womens awareness camps, and 135 VLC training sessions. In the initial stages these activities related to people's awareness building. In the last year the focus has shifted, in response to the changing demands of the project, to providing technical training to VLC members in implementing different activities. In the last year HIRD has been made the responsibility of all the team members,

including the GO staff, not just the sole responsibility of the NGO teams. This is seen by some as a retrograde step, and as indicative of a reduced emphasis on HIRD in practice. The attention given to both pre-implementation training, and post-implementation follow-up, is a particular feature of PAHAL. It is important that this is maintained and developed.

4.9 Accompanied by the simplification of procedures and decentralisation, HIRD activities have contributed to increasing people's awareness of project activities and procedures, and have helped VLC members to take over responsibility for implementation. The continued focus on women's involvement, and on organising women's awareness camps, has led to a marked increase in the "visibility" of women in the project.

4.10 The evaluation team members were not able to attend any training programme in full and hence it is difficult to comment on the quality of the training programmes. They were, however, able to see some training sessions in progress in some villages, especially those related to livestock rearing. The training material displayed at these locations contained more text than visuals, and that too in Hindi. The usefulness of such material is limited. The local dialect is Vagdi not Hindi, and most of the village people, especially women, are not literate. The appropriateness of some of the technical content to resource-poor households may also be questioned. Although a training of trainers (TOT) programme was organised earlier this year for all the project staff, after which these training modules were prepared, there is definitely a need to sharpen skills in conducting training programmes in a more participatory manner and in designing them for non-literate participants. The project also needs to become more sensitive to the possibility that standard departmental technical recommendations may not be appropriate in all socio-economic and agro-ecological situations.

4.11 It also needs to be mentioned that while much attention has been paid to the transfer of skills and human resources development, little seems to have been done in the area of village institution development. Training has so far been limited to the VLC, and has not extended to the VLO. Unless due attention is paid to wider institutional development, sustainability of the development efforts undertaken by the project will be difficult in the long run (7.18-19).

4.12 Greater emphasis should also be given to upgrading the skills of project staff, and to training new project staff when they join the project. There is a particular need for in-service training in participatory approaches to farming/livelihood systems improvement. Only by increasing the skills and experience of project staff through a combination of in-service training, high quality recruitment, and external

consultancy inputs will the gap between the (admittedly high) expectations contained in the PoAs, and the capability of PAHAL staff to meet those expectations, be closed.

4.13 There are some indications that HIRD has been given a lower priority in the last year. If true, this may only reflect the progression from an earlier and necessary emphasis on mobilisation and awareness raising to a situation where villagers are ready and able to embark on large scale physical activities. Project staff assured the evaluators that this has not happened. However, it is still likely that the sheer volume of physical work which has been implemented in the past year may have crowded out HIRD activities to some extent. The level of HIRD activity which preceded the onset of physical work may also have been rather less in `new' villages/Blocks than was the case in `old' villages/Blocks. The balance between HIRD and physical activities, and the sequencing of HIRD in relation to other activities, needs to be kept under review.

Subsidies

4.14 Participating villagers contribute, in the form of labour, 15% of total costs for developing their common property resources and 25% for private property resources. However, because activities are costed using the minimum wage of Rs. 32 per day, a costing based on 75% of this rate means that villagers are receiving the equivalent of the local rural wage rate (around Rs. 24 per day). The real subsidy rate for private land activities is therefore effectively 100%, and their own contribution to the works is therefore effectively zero.

4.15 Subsidies for SWC are a fact of life in India. Subsidies are intended to create employment for poor people, to demonstrate the benefits of new technologies, to encourage the investment in environmentally beneficial and productive SWC assets, and to gain political support in rural areas. In common with most SWC programmes in India, PAHAL has been based on the assumption that high subsidy levels are both necessary and justified. There is increasing evidence from India and elsewhere that this is not the case (Kerr et al,1996). The harmful effects of subsidies within PAHAL are mentioned in a number of places elsewhere in this report.

Participation

4.16 The project has adopted a participatory approach in its working, as laid out in the PoAs. A foundation to this process was built in the first three years when efforts were concentrated on building rapport with the people, organising awareness camps and conducting training programmes for the people. In most of the early villages selected by the

project, MLPs were also prepared during this period. Although some physical activities were also initiated during this period, progress was slow.

4.17 The last year has seen major changes in the project profile. Several actions have been taken that have increased the participation of people at the village level. Registration of Village Samities has given the village institution a legal identity. This has enabled financial decentralisation and VLCs have been able to handle financial responsibilities for the activities supported by the project. Simplification of procedures have speeded up the implementation of plans. The implementation process has been largely handed over to the VLCs.

4.18 However, the impression gained by the evaluators is that the menu of activities are still generated outside the villages. This is not conducive to real participation. The activities have not changed significantly over the life of the project, and tend to be the orthodox departmental solutions which may not be appropriate for all situations and circumstances (see 4.38 and 5.23-24). There has also been a departure from the original process of preparing MLPs before starting implementation. The evaluators accept that it may be desirable to initiate some physical activities on the ground at an early stage. However, the scale of activities in the last year has been too large, and have been expanded without adequate dialogue at the village level and without a clear link to a long term development processes and plans.

4.19 The rapid scaling up of physical activities has left little time for reflection at the village level as to how the benefits from these investments are going to be sustained. Similarly, for the process to be participatory, it is essential to develop village level monitoring systems that can be used by the village institution. This is lacking at present.

4.20 The overall impression gained by the evaluators is of a project that has become more participatory over time, but which, in comparison with projects elsewhere, is not as participatory as some. Opinion was divided on the utility of applying a typology of participation to the project. These reservations aside, there is some value in considering where the project is placed on a continuum of participation. One such continuum if given below.

TYPOLOGY	CHARACTERISTICS
1. Manipulative participation	Pretence at participation. People have no power.
2. Passive participation	People told what has been decided or has already happened. Project makes unilateral announcements without listening to people's responses.
3. Participation by consultation	People are consulted, but outsiders define problems, information gathering methods, and analysis. No share in decision making.
4. Participation for material incentives	People contribute resources (eg. labour) in return for material incentives, but are not involved in experimentation or learning. People have no stake in prolonging technologies or practices when incentives end.
5. Functional participation	Participation is seen as a means to achieve project goals. People participate by forming groups to meet predetermined project objectives. Some shared decision making, but usually only after major decisions already taken by external agents.
6. Interactive participation	People participate in joint analysis, development of action plans, and institutional development. Participation is a right, not just a means to achieve project goals. Groups take control over local decisions and resources, so have a stake in maintaining works/practices.
7. Self-mobilisation	People participate by taking initiatives to change systems independently of external institutions. People control how resources are used.

Source : [1]

4.21 It would appear that PAHAL has most in common with the middle part of the continuum : `Participation for material incentives' and `Functional Participation'. Elements of `Interactive participation' may be present, but in general people only have control within a limited, project-determined agenda. There is no evidence of action plans being developed on the basis of joint analysis, particularly since the demise of micro-level planning (see 4.34).

4.22 The pre-conditions for sustaining a participatory development process at the village level include: a) a functional village institution; b) decision making at the

[1] Bass,S. Et al : Participation in strategies for sustainable development. Environmental Planning Issues No.7. IIED, London (1995).

local level; c) skills development; and d) resources controlled and generated by the village institution. While most of the resources, including financial, are being controlled by the people and the VLCs, and there is a gradual transfer of skills to the village functionaries, two features of the project continue to constrain participation. The first feature is the high level of subsidies. As long as people are paid to participate, there is no guarantee that the activities undertaken will be appropriate and acceptable to farmers. High subsidies also perpetuate a dependence on government `handouts', and undermine people's incentives to take the initiative or to become more self-reliant. The second feature is the limited and pre-determined menu of activities and technologies mentioned above (4.18). This will clearly be difficult to change as long as such high employment subsidies are associated with certain activities.

4.23 The other constraint to participation is the limited development of functional village institutions. The PoAs mention the need for strong VLOs, but most of the efforts so far have been focused on developing strong VLCs. VLCs (and VLMs before them) have been effective in mobilising people to participate in the pre-determined activities. However, this is again a rather narrow view of participation. More needs to be done to strengthen the VLOs so that they are able to take control of the decision making processes. Decision making by the VLOs needs to go beyond preparing lists of households willing to take part in an activity, and should cover all aspects of planning, design of the programme, its implementation and monitoring. Decision making at the village level at present seems externally induced rather than internally developed.

4.24 In order to facilitate an incremental process of participatory development, some incentives for participation and effectiveness need to be built into the programmes. At present PAHAL provides support uniformly across the board, largely regardless of the quality of participation and results. This can be counter-productive. Some classification of VLOs, on the basis of types and levels of people's participation, and on the quality of previous work, could be used to determine the level of project support made available.

Social and gender strategies

4.25 The results of the emphasis on women's involvement in the project are impressive. The combination of women's awareness camps, an insistence on some women VLC members, and the inclusion of women participants in all training programmes and meetings, have led to a definite active presence of women in the project. The emphasis placed on gender by the resident adviser has been an important factor.

4.26 The evaluators did not gain a consistent picture of the type and coverage of gender training for staff. The PoAs state that gender issues at the village level should be dealt with by the women staff members. While such a strategy helps in reaching out to the women in the villages, it creates a divide among the staff on the basis of who should be dealing with gender issues. In order to institutionalise gender sensitive planning and programme implementation, all the staff members, women and men, should be provided with gender training. Male staff members may not find it easy to deal with issues related to women, but this does not remove the need for them to be gender sensitive in their approach. This will need to be carefully handled. The gender training provided earlier in the project was not well received by either government or NGO staff.

4.27 Providing all the project assistance in women's names has increased the confidence of women. However, this may well be a short term effect unless women are enabled to build productive assets which they can own themselves. A start has been made in this respect by providing fruit trees (under the Panchtaru programme) and heifers in the women's names.

4.28 Although there has been a continuous and sustained focus on the involvement of women in the project, a similar social strategy seems to be lacking in the project. So far, the social strategy seems to be limited to the selection of largely tribal villages. The underlying assumption is that by selecting a tribal village, the project is in effect working with the poorest community in the District. While this is true in general, such a strategy assumes that the tribal community is a homogeneous group.

4.29 In reality, even apparently homogeneous tribal communities have divisions, mainly on the basis of the resource endowments of different households. The evaluation team found no cases where a special and systematic effort had been made by the project to identify the most vulnerable groups within the tribal villages, or to focus special efforts towards them. Some project staff were not aware that the revised PoA intended the project to reach and actively involve "the weakest and most disadvantaged segments of the population". The evaluators did, however, come across a few cases where poorer households had been deliberately selected. This supports the project view that some VLC members are aware of the poverty dimension, even if the project as a whole does not, as originally intended, have a particular poverty focus.

4.30 That said, the project has been inclusive rather than exclusive. The evaluators found no evidence of poorer households being left out of the project activities or of any negative impact on them so far. However, in the absence of any systematic social monitoring of the project activities, it is

not possible to identify what, if any, differences in impact exist between different categories of households. Project staff agreed that this was a deficiency which would need to be rectified in any new M&E system.

4.31 The evaluators were not able to verify the extent to which project activities had been "concentrated to villages that are more economically backward and ecologically hard pressed". The fact that the villages selected are predominantly tribal would suggest that the project has been concentrated in poorer areas of the District, and no anomalous examples were seen. However, it is not clear exactly how the village selection process was conducted in each Block, particularly in the early stages, nor does the project have data which would verify that the project is in fact working in the poorest villages in the District. There would be merit in ensuring that any future village selection process was demonstrably systematic and rigorous.

Natural resources activities

4.32 The methods for establishing forestry plantations, and for implementing soil & water conservation works are clearly detailed in instruction manuals, and are technically sound. The technical staff at SMS level also have the training, experience and necessary skills to put the standard recommendations into practice, and to supervise others.

4.33 The SWC guidance appears to have been followed to a good standard by technical staff in most cases. However, with devolution of responsibilities down to VLC/VLO level and the massive increase in SWC works in the past year, keeping up standards of both layout and future maintenance has become much more difficult. Project staff are no longer in a position to dictate the technical standards which must be achieved, but can only advise. Observations made by the evaluators suggest that this has resulted in some SWC work which is unnecessary and/or of dubious value (see 6.13 and D.12).

4.34 The quality and utility of the Micro-Level Plans (MLPs) produced during the early years of the project is variable. The few MLPs seen by the evaluators do not appear to have been plans in the proper sense of the word. Most appeared to consist of a list of all the households in the village together with the area of SWC works, PLP, etc. `required'. There was no budget, no phasing, and no prioritisation. However, the abandonment of the formality of producing a MLP by a village has possibly diminished the chances of effective integrated long-range physical planning of future uses and management of a village area as a whole. There is no longer a requirement to assess and map the varied land resource conditions as a basis for environmentally-sound land use planning. There is a need to reintroduce an informed local

planning process as an essential part of the project. A limitation may be the insufficient experience which staff from a particular discipline may have in addressing the interdisciplinary complexities of a four-dimensional (space+time) land-use plan. However, one of the strengths of the Project is that the staffing arrangements are such as to favour exchange of views and experiences between staff of different disciplines/Departments, as well as between them and villagers (D.13).

4.35 For agricultural matters the technical norms are less clearly defined. It is unfortunate that it is not till this year (1996 kharif) that it will be possible to demonstrate and assess for the first time the (probably) synergistic effects of concentrating agricultural recommendations - notably improved varieties plus compost - in places already treated with SWC works. The agriculture programme also appears to have been somewhat ineffective in bringing several - rather than just one - varieties of a particular crop to the notice of farmers collaborating in the crop trials, for their consideration and comparison (D.19). Until such efforts can show significant and sustainable crop-yield increases, the attraction to farmers of installing field bunds may be based more on wage benefits than the prospects of improved agricultural production(D.14).

4.36 The process of establishing both PLPs and CLPs appears to have been efficient and in accordance with recommended practices. However, their subsequent maintenance has varied according to the concern and care exercised by the individuals or groups in the villages who take responsibility for them. High subsidy levels have removed one incentive for maintenance by effectively reducing people's contribution to zero (4.14). This may not necessarily preclude good maintenance.

4.37 The project has not, until very recently, specifically collected information about the nature and dynamics of either the farming systems or livelihood systems of the tribal people in the project area. The process of matching project offerings to the realities of rural life at the project-planning stage might have been more precise if the weaknesses, strengths or gaps had first been identified as focal points for action. This would have modified the current approach which has, de facto, assumed that relatively standardised ex-Departmental approaches and activities would adequately address the requirements for environmental stability and people's needs, and the rankings in which they prioritise them.

4.38 The project has followed a transfer-of-technology, rather than a farming/livelihood systems, approach. It has tended to promote conventional `improved' crop and livestock

technologies, the appropriateness and superiority of which is not always certain or universal given the agro-climatic and socio-economic diversity. The participation which is so evident in the devolved approach to the implementation of project activities has not yet extended to the design and exploration of what activities or technologies should be implemented, and how they might be developed in partnership with farmers.

NGOs

4.39 The role of NGOs vis a vis the government has been a important element of the project. NGO staff have played a pivotal role, particularly with respect to HIRD and participation, and have helped in reorientating government staff seconded to the project. The fact that the project started its work in the blocks where the two main NGOs already had a major presence had real benefits in terms of experience and goodwill.

4.40 There is no doubt that the project is more of a government than NGO initiative, and that the Project Director has the final say. PAHAL would neither have been as acceptable to government, nor as effective, had this not been the case. The crucial question, however, is whether the project framework allows each institution to contribute its strengths. Sida and the resident adviser have played a positive role in promoting the role of NGOs, but it is evident that problems have existed, and continue to exist, in the NGO/government relationship.

4.41 Institutional changes over time have meant that the relative roles of NGOs and government have changed over time. Working relationships at Block and project level appear reasonable, but it is nevertheless apparent that the NGO forum does have a relatively reduced presence compared with the earlier "lead NGO" concept. The apparently reduced profile of NGOs within the project is a cause of concern for the NGOs, as is their diminished independence.

4.42 Processes during the life of the project have progressively reduced the distinction between government and NGO staff roles / functions, especially at the field level. The most recent change has been to make one person - the Officer-in-Charge (OIC) - accountable for a particular village(s). This has meant that the NGO staff as well as the government staff have dual responsibility (i.e. for HIRD as well as physical activities). Views on this aspect have been mixed. Some NGO staff feel that this has undermined their role as specialist resource persons. The new approach is heavily dependent on the competence and experience of individual OICs, and may have reduced cooperation among staff. On the other hand, some staff see benefits associated with breaking away

from a narrow government/NGO specialisation.

4.43 There would appear to be different explanations for the introduction of the OIC system. Not all agree that it was effected in response to the increased workload of physical activities in 1995/96. Whatever the reason, it needs to be reviewed as and when the workload associated with physical activities is reduced. There is a risk that this structure could reduce the emphasis on HIRD activities, thereby reducing the role of NGOs who have been the major proponents of HIRD.

4.44 The net result of these developments has been to blur the distinction between government and NGO roles within PAHAL, and to diminish the distinct contribution of NGOs. It is apparent that this has left some NGO staff unhappy at their inability to work independently and differently from government staff. NGOs also reported frustration with their limited input and influence over project decisions. Taken together, the various concerns expressed to the evaluation team suggest that there is a need to review and redefine the role of NGOs within the project.

Planning and review

4.45 The original Plan of Action (PoA) produced in 1991, and the revised PoA produced in 1995, are detailed guides to project implementation. However, both suffer from a critical lack of clarity regarding results, project objectives, and development objectives. Both PoAs also lack clear indicators of achievement. While these deficiencies are more explicable for the earlier document, it is less clear why the 1995 PoA made no attempt to adopt the LFA approach then being introduced by Sida. The resultant and continuing uncertainty over exactly what the project is trying to achieve, and what will constitute success, can to a large extent be attributed to this deficiency.

4.46 The problems created by the unclear objectives have been compounded by the lack of an adequate annual workplan for the project. In the absence of a detailed and clearly structured workplan, it is very difficult for GoR and Sida either to review project achievements against short-term objectives, or to guide and approve future developments. This has resulted in a joint annual review process of doubtful effectiveness. The combination of a detailed annual workplan and budget, and a detailed annual report on the previous workplan, produced by the project for GoR and Sida, represent the key to improving accountability and effectiveness.

4.47 Accountability to GoR and Sida would also be improved if regular reports were produced by the project. The only routine report produced by the project for GoR and Sida is the annual progress report. One compliance report on the Joint Review minutes has also been produced. An additional

regular six-month report to GoR and Sida should be considered.

4.48 Sida has long been concerned to ensure that the project is not driven by financial and physical targets. All figures were deliberately excluded from the revised PoA for this reason. However, as long as a total annual budget allocation remained (as it had to), and as long as success/failure in government continued to be measured in part by the extent to which budgets were spent, it was unrealistic to expect that project implementation would not be influenced by the available budget. Sida's understandable preoccupation with the quality of spending was inevitably in conflict with the understandable desires of GoR, the project and villagers to spend up to financial limit available. With hindsight, the solution to the perceived problem of financial and physical targets was not to remove all targets and budgets, except for the total budget. There is nothing wrong with targets and budgets provided they are appropriate, and are developed with VLC/VLOs. The problem is less that the project has inevitably become target driven, but that the project has not defined the right targets (and associated budgets) as part of a decentralised planning process nor then monitored its progress against them.

Monitoring and evaluation

4.49 The Project Agreement, original PoA, revised PoA, and annual reviews all mention the need for an effective monitoring and evaluation system. Such a system has never been established, and the monitoring and evaluation of the project has been, and remains, very weak. Defined indicators of achievement (quality and quantity) are lacking, as is the most basic data on project activities. It is not possible, for example, to ascertain with any accuracy how many people have benefited from the project, nor how much of the soil and water conservation expenditure (43% of project local costs) has been spent on works of different type. A good monitoring system would have been able to indicate average characteristics, the variation of results around them, and the changes taking place over time. Evaluation reports have to be independent, reliable and rigorous if they are to be real value.

4.50 There are a number of possible explanations for the disappointing performance in this area. Although there is agreement among GoR, Sida and the project on the general need for a monitoring system, opinions about the importance and nature of such a system, and the skills required to establish and maintain an effective system, clearly differ. Some steps are now being taken to improve M&E within the project, but in general the demand for an effective system is still lacking, as is an appreciation of the skills and approach required. Unless and until there is a demand within the project to monitor and evaluate its work effectively and objectively, the

scope for significant improvement in this area is limited. Project staff (and villagers) need to be convinced of the value of monitoring which types of household are benefiting or not from the project, or evaluating which types of SWC works are cost-effective or not, if project performance is to be significantly improved.

4.51 The key starting point for an effective monitoring system has to be the definition of objectives and associated indicators of achievement. Desirable process characteristics - such as participation, social inclusiveness, etc.. - also need to have clear process indicators. A monitoring system which collected, analysed, and reported on a manageable number of key objective and process indicators would constitute real progress.

External linkages and research

4.52 As for M&E, supporting research and investigation has been very limited. As is now admitted by the resident adviser and others, the project was not based on accurate assessments of the prevailing land-livelihood situation. Problems and solutions have tended to be assumed. High subsidies for orthodox technologies have further militated against both indigenous technologies or new developments.

4.53 The lack of research and enquiry has been a feature of the project despite the ready availability of Sida funds for this purpose, and the initiative and enthusiasm of the resident adviser. The reasons for this are also probably similar to those relating to M&E. Project staff have not, in general, been convinced of the need for, and benefits of, practical research assistance. Confidence in the appropriateness and efficacy of project initiatives is not conducive to a more questioning approach.

4.54 Recent progress has been mixed. A study of local ecological practices is now underway with the support of Sida and the resident adviser. This should significantly inform the design of the next phase of the project. Unfortunately, progress with an ecological research study conducted by Sukhadia University has been limited. The project remains unhappy with the progress report as submitted, and the value of continuing this research is now in doubt.

4.55 Two new studies have also recently been instigated by Sida and were in progress at the time of the evaluation. Project management does not feel that it was properly consulted or informed about these studies, and is not convinced of their value. In the opinion of the evaluators, such studies have to be conducted with the active support of the project if the results are to be useful and acceptable. This did not appear to be the case.

4.56 There is no easy solution to this impasse. Without an agreement by all parties that research of some kind is necessary, there is little likelihood that any research findings will influence project implementation. But in the absence of research there is a real risk that the project will have little impact, either because it is based on questionable assumptions or because it is promoting inappropriate solutions. An essential feature of any project continuation must be an exploration of this issue. Unless and until there is agreement on what is and is not known about the realities of the land-livelihood situation, and about the merits or otherwise of indigenous and `modern' technologies, there is little point in arguments about research.

Role of external consultants

4.57 The external consultancy support funded by Sida has consisted of three distinct parts : a resident project adviser; and visiting project coordinator; and a local consultancy support team. The project itself has also made use of local consultants.

4.58 The resident adviser has made a significant and positive contribution, especially during the formative stage of project. However, achieving the correct balance between providing advice and providing operational support has been difficult, and relations with the project have not always been easy. Whereas initially the adviser provided significant operational support, his role is now solely advisory (with some research responsibilities). While this might have been expected to have made the adviser's position easier, in practice it may have made the role more peripheral and less obviously useful. The physical separation between the project office and the adviser's office has not helped. On balance the evaluators are of the opinion that the post of resident adviser has been important and valuable, but that there is a need to review the contribution of the post.

4.59 The contribution of the visiting project coordinator was more difficult to assess. The coordinator has clearly played a useful advisory role for Sida, and the early visits to the project were seen as useful. However, the overall justification for the project coordinator is less clear than for the resident adviser, particularly now that the resident adviser has assumed much of the role.

4.60 The local consultancy support team does not appear to have been a success, in part because of the more general problem of how external consultants contribute to the project and work with project staff. Project staff are understandably ambivalent about the role of external consultants. In general, the project is much less convinced of the need for external consultants (whether from India or elsewhere) than is Sida.

The project is also understandably sensitive about Sida deciding what operational support is required. These differences have led to increasing problems. As with the resident adviser, there is clearly a need to review the *modus operandi* regarding external consultants, and to reach a new understanding with the project. The roles and responsibilities of the Project Director, resident adviser, and Sida in relation to external consultants and researchers needs to be reviewed, at least for any future phase.

5. EFFECTIVENESS

To what extent has the project achieved the objectives planned?

5.1 Any assessment of effectiveness depends on there being a clear and agreed definition of the objectives. This is lacking. Rather than attempt to create a set of objectives for this purpose (which would have been difficult and contentious) the evaluators opted to use the objectives as contained in the revised PoA. These are arguably the best available. The revised PoA listed four `operational objectives' (which have been treated as results) and three `long-term aims' :

Operational objectives (results)

- Local planning, implementation and management capacity established
- Unequal access to natural resources mitigated
- Potentially productive land identified and rehabilitated
- Existing ecologically sound and economically viable systems of land use strengthened.

Aims

- Natural resources regenerated and sustainably used by the rural poor.
- Policy, planning and implementation of larger government and NGO natural resource and wasteland development programmes in Rajasthan improved.
- Physical resources mobilised for the people through self-reliant, self-sustaining and self-generating activities.

5.2 The effectiveness of the project has been assessed against all four results, and the first two aims. The third aim is more difficult to interpret and so has not been used. A fifth `method development' result has also been assessed in view of the importance attached by Sida to this objective.

Area development results

Local planning, implementation and management capacity established.

5.3 In the last one year responsibility for implementing different activities supported by PAHAL has been handed over to the VLCs. Within the menu of activities available, the VLCs assist village people to decide the different activities they want to undertake and to prepare an implementation plan accordingly. VLCs submit proposals, on prescribed formats, to PAHAL. They have also been able to take charge of implementation, supervision, and to handle cash disbursements.

5.4 Management capacity of VLC members is being developed at present and training programmes on related subjects are in process. Since the VLCs are new and have only recently started handling all these responsibilities, it will take time to develop the new skills required.

5.5 While implementation and management capacities are being created with the VLCs, there is less evidence of developing their planning skills. Planning at present is limited to their preparing lists of households willing to undertake pre-determined activities, and in some cases phasing the work proposed. VLCs have not been required to allocate limited resources or to choose between alternative investments. There is a lack of skills, even among the project staff, in planning different activities in an integrated manner and in linking the development and care of the natural resource base of the village to household livelihood security.

Unequal access to natural resources mitigated

5.6 The lack of monitoring data makes it difficult to assess the changes in household access to natural resources in the villages. The project does not seem to have addressed the issue of whether there is/is not unequal household/individual access to natural resources in a village, nor has the impact of project activities been monitored in this respect.

5.7 Discussions with people in the project villages did reveal that most of the available natural resources in a village, especially land, are privately owned (including land that has been encroached over the years). Rights of use are generally determined by ownership. As a result, except in one village visited, most of the SWC and PLP activities undertaken by the project are on privately owned land that was already exclusively privately used. While the general picture is therefore that project activities have resulted in little or no change in household access to resources like grazing, there

is a shift in land-use, specially on upland slopes. Plots of degraded land, *niji beed* (private grazing lands), that were being used by households for grazing have been fenced, planted with trees, and closed for grazing. The profuse regeneration of grass on such plots has definitely increased the availability of biomass. Since most of such upland slopes belong to the poorer households, it is generally believed that the poorer households have benefited more from such activities. However, there is need to verify these results by establishing an appropriate monitoring system at the village level.

5.8 Similarly, some field bunds have made it possible to bring additional land under crop cultivation, and soil traps on *nalas* have created new plots of flat land which are suitable for paddy cultivation and a possible second crop on residual moisture. Most of these are also believed to have benefited poorer households to a greater extent. Overall, the evidence of all-inclusive action (with some notable exceptions) suggests that effect on unequal access to natural resources is at least neutral and probably positive.

Potentially productive land identified and rehabilitated

5.9 Where well implemented and maintained, the various programmes of the project have contributed to the rehabilitation of land. This has been effected in four main ways :

- tree planting and protection
- construction of soil traps/stone checkdams
- construction of earth bunds in fields
- use of compost from compost pits

5.10 However, the extent, quality, and impact of these measures is subject to some uncertainty. This is discussed in section 6 below.

Existing ecologically sound and economically viable systems of land use strengthened.

5.11 The project has not explicitly worked from an analysis and understanding of existing systems, nor have current local land use and farming systems yet been studied as a basis for determining optimum points for offering assistance. Since there is little specific information about either local farming systems or livelihood systems, it is difficult to state with certainty whether they were or are even now ecologically sound and economically viable at this particular time. Nevertheless, it is believed that the effective measures (above) which have been adopted will have strengthened and helped in the stabilisation of existing

systems.

Method development results

5.12 According to the evaluation ToRs, `method development' was one of the major thrusts of the project. This section assesses the extent to which innovative or different methods/approaches have been developed by the project over time, in three areas : institutions/procedures; land use technologies; and participation. However, it should be pointed out that, since 'method development' is not clearly stated as an objective in the project Plan of Action(s), the project has not consciously worked in this area. Project staff were of the opinion that this aspect should not be evaluated. This major difference of opinion between Sida and the project underlines the criticisms made earlier regarding the lack of clear and agreed objectives and work plans.

5.13 PAHAL has been an institutionally innovative project in many respects. As mentioned in section 4, the project was innovative in design, but it has also continued to be innovative during implementation. In general, it has exploited its financial and operational flexibility to good effect. A number of significant procedural innovations have been produced as a result. These include the delegation of financial responsibility to the Block and village, and the simplification of procedures for physical works (4.1-4). As an implementation agency PAHAL now compares very favourably with other government departments and agencies having similar physical programmes. The project deserves more credit for this institutional innovation than has previously been acknowledged.

5.14 PAHAL has been more conventional, and less adaptive, in other respects. It has not, for example, deviated from the concensus that high subsidies are essential and beneficial. It has also not yet used its independence as a society to establish a more flexible staff policy and pay scheme. Both are essential if the project is to attract more qualified and experienced staff.

5.15 PAHAL has been much less innovative in the area of land use technologies and participation. No innovations in agricultural or land use technologies were noted, although some new varieties were being distributed. Apart from these, all the techniques and approaches have been developed and used elsewhere. This has meant that the physical activities supported under PAHAL are very similar in type to those supported under government watershed development programmes. This assumes that the technologies promoted by PAHAL and others (earth bunds and trees, and externally developed agricultural/livestock solutions) are an adequate and appropriate response to the land-livelihood problems in the

tribal areas of Dungarpur. This assumption is at best untested.

5.16 Orthodox technical recommendations might well appear on any menu of technical options to be discussed, tested and developed with farmers at the start of a project of this type. However, as understanding developed, it would be expected both that the menu would change, and that the technologies would adapt and change with experience. There is little indication of such a learning approach within the project. The counter-argument presented by the project is that technical experimentation was not one of the aims of the project. As one staff member said : "our job is to implement, not to innovate."

5.17 While people's participation has been a focus of the project from the very beginning, and much has been achieved in this regard, there is little new or innovative in the PAHAL approach. The evaluation team feels that this need not be viewed as a negative feature, since 'method development' need not simply imply developing a new field methodology. It can also be viewed as drawing from experiences elsewhere and adapting these lessons in the working of the project. While PAHAL has not done this to any obvious extent, it has placed much greater emphasis on people's participation at all stages of planning and implementation than have comparable government programmes, and has tried to incorporate different ways of achieving participation.

5.18 The overall conclusion of the evaluators is that, although innovative in the area of implementation procedures, little emphasis has been given to developing and monitoring alternative, participatory approaches to land-livelihood development. This appears to be attributable to (i) differences of opinion over whether this was a project objective; (ii) a perception that this is unnecessary (ie. reflecting an admirable confidence in the existing/orthodox approaches/ technologies); and (iii) the shortage of requisite skills and experience available within the project.

Achievement of aims

Natural resources regenerated and sustainably used by the rural poor.

5.19 The fact of protection plus appropriate management (limited frequency of harvesting grass) of PLP and CLP areas has been sufficient for self-regeneration to begin taking place in grasses, trees and soils. Areas formerly open to almost continuous grazing have been effectively fallowed.

5.20 It is too early to say whether any area-wide changes

in land use management in cultivated areas, indirectly provoked by apparently widespread field bunding, have resulted in the soil resource being regenerated. This is known to be the case where improved compost has been used (see above), but at present this is limited to the small areas to which this has been applied.

5.21 While it is too early to judge the sustainability of the different activities initiated by the project, there are clear indications of some natural resources being regenerated in the project villages, and of the benefits reaching most sections of the village community. Since most of the poorer quality upland slopes are owned by the poorer people in a village, they have benefited by the planting of trees on the uplands and from the profuse regeneration of grass, wherever these plots have been effectively protected from grazing livestock. Similarly, the construction of soil traps have led to developing new and fertile agricultural lands. The sustainability of these efforts can only be ensured if appropriate inputs on management of these resources are made available, and if linkages with improved agricultural practices are established.

Policy, planning and implementation of larger government and NGO natural resource and wasteland development programmes in Rajasthan improved.

5.22 There are indications that PAHAL is having some influence on thinking within other Government departments. The participation of the Project Director and an NGO from the project in one of the committees established to discuss the next GoR Five Year Plan should further this process. This apart, it is too early to expect to see any impact from PAHAL on the implementation of other programmes, or for the experiences of PAHAL to have been disseminated widely. The fact that this experience is now within government (even though PAHAL is nominally a NGO) increases the likelihood that it will be internalised (but see Replicability below).

Cost-efficiency

5.23 **Cost-efficiency** may be defined as the relation between the costs and **results** of a project. A project is cost-efficient when it achieves its outputs at the lowest possible cost compared with alternative methods of delivery. **Cost-effectiveness** is the relation between costs and **impact** of a project. This latter aspect is considered in para. 6.38 onwards.

5.24 A judgement on whether the project has been cost-efficient depends crucially on the definition of results. If

the reported unit costs of the immediate physical products (bunds, trees, etc.) of the project are used, the project appears to be more expensive than the SWC Department and less expensive than Forestry Department. However, this says nothing about the quality of the works in either case. The delegation of financial and implementation responsibility to Block and village level respectively, plus the simplification of procedures, would be expected to have reduced unit costs within PAHAL, but there are no data to support this.

5.25 The unit costs of PAHAL works cannot be calculated with any certainty, but are probably higher than reported. It would appear that, at least in Dungarpur Block, the physical figures for SWC probably overstate the actual achievement. If less SWC work has been carried out than billed, the true unit costs per hectare will be higher than reported.

5.26 The effective wage subsidy for physical works on private lands was approximately 100% of the rural wage rate (although nominally 75% of the minimum wage rate). People will and do work for less than the rural wage rate, and some of the investments are likely to be very profitable. It would therefore have been possible to have achieved these works at lower cost.

5.27 More importantly, it would have been possible to achieve the next level of objectives (ie. soil and water conservation) at lower cost. Some of the bunds constructed are ineffective (see 5.16 above). The unit costs per hectare of effectively treated land will therefore be higher than reported. Similarly, some of the SWC benefits (and possibly the economic benefits) associated with PLPs and CLPs could have been achieved at lower cost by just fencing the area without planting trees. In terms of soil-protective effects, grass alone is more effective than trees. This would indicate that the project has not been cost-efficient.

6. IMPACT

Assess the changes (planned or unplanned) attributable to the project; categories of land affected; and who has benefited/lost.

6.1 This assessment of the impact of the project must necessarily be tentative. It is too early to identify many of the impacts. There is also little reliable data available on the quantity and quality of project activities, let alone about the size, extent and rate of spread of favourable changes. Thus, while with one or two exceptions (notably some of the SWC works), it is possible to say that the technical impact of the works is positive, it is not possible to say anything about the magnitude of this impact.

Technical impact

Forestry :

6.2 The most visually startling rehabilitation of depleted/degraded land is exemplified by those PLPs and CLPs which have been properly established under the Forestry programme, and subsequently satisfactorily protected and managed. These areas provide good visual demonstrations of effects of better management, even if the total area covered so far is not yet a significant proportion of the total area within the Project's villages. Comparison can be made with the geographical areas of 11 classes of land encompassed by the selected villages, as well as with the areas under four classes of land of the five Blocks' total areas. The areas are given in Annex D.16.

6.3 The protective management of grass+tree areas of PLPs and CLPs has had positive impact on grass and tree vigour and survival. Good growth of the trees, plus cut grass yields variously estimated from 1-4 tons/ha, was reported at several sites. The seeding and subsequent spread of Stylosanthes hamata in PLP and CLP areas is also likely to have positive impact on the nutritional quality of the fodder cut and carried from such areas, particularly if harvest takes place before the leaves have dried and dropped off. The 1996/97 dry season will be the first period in which any effects on animals resulting from the enriched fodder will be noticeable.

6.4 The protection of PLP and CLP areas is not entirely costless. Unless or until additional fodder is grown to make-up the shortfall induced by closing PLP and CLP areas in the period from the monsoon till the grass is cut and carried (approx. November), areas such as unimproved Village Common Land and unprotected 'Forest' land will continue to come under increasing pressure from animals displaced at that time. The

impact on such unprotected 'sacrifice areas' will be negative and exhibited in the form of even less ground cover, lower root reserves in grasses and herbs, increased trampling and compaction per unit time, and more severe runoff and erosion than even at present.

6.5 The trees+grass cover in well-protected PLP and CLP areas can also be presumed (from an understanding of processes) to have had positive impacts on the conservation of water and soil *in situ*. However, there are as yet no data from the Project itself which show clear effects of treatment distinct from the effects of weather conditions.

6.6 The combination of increased vegetative cover plus cross-slope works such as bunds (those on the contour), soil traps, contour trenches, individual tree-basins, can be expected to have had positive impacts in increasing the amount of rainwater infiltrated and moving to ground water, thus reducing surface runoff. There is one verbal report (from Sharam Village) that the construction of soil traps (acting as 'sponges' for water coming down a streamline) resulted in attenuation of ephemeral streamflow - from 2 hrs to more than 24 hrs - after storms, as would be expected.

6.7 Construction of farm ponds and anicuts/weirs will also have had a positive impact on ground water reserves in localised areas. This is to an extent counterbalanced by the flooding of land formerly used for cultivation or grazing. The optimised use of water thus stored should have net positive impact, via irrigation, for some but not necessarily all people in a village. Because the financial records seen show only 'SWC' without subdivisions according to type of work, the number of such relatively major works is unknown.

6.8 These positive indications need to be balanced by the possibility of negative impacts on ground water reserves. Hydro-meteorological considerations indicate that if and where trees' roots extend to the local water-table, their continuing transpiration in periods of low air humidity may deplete ground water reserves. Where management of tree+grass areas in PLPs and CLPs is such as to favour infiltration of all incident rainfall, the net impact on ground water may still be positive. But if lack of management allows the soil surface to become compacted, relatively impermeable to rainwater, and thus generating excess runoff, the net impact on ground water reserves could well be negative. On the other hand, if the primary purpose of planting the trees in a particular place is to harvest woody biomass for various purposes, then the overall impact of planting and managing the trees on people's livelihoods may nevertheless be judged to be positive [D.21].

Soil and water conservation structures :

6.9 SWC structures have been of two main types : soil traps/stone checkdams, and earth bunds in fields. The latter have been a mix of contour bunds and non-contour `field boundary' bunds. Reliable data does not exist on the physical extent, or technical quality, of these different categories of works. The effect of the SWC measures on the area and yields of different crops within these different categories is also unknown. The discussion of impact which follows is therefore tentative.

6.10 Soil traps/stone checkdams have been effective in (a) rehabilitating gullies in drainage lines to the extent that they have filled the channels to throwback level, and prevented further headward advance on the downstream side; and (b) in creating new cultivable land by trapping soil materials originating from upstream. The improvement in design (a stepped downstream face) has been effective in making the structures more stable and less likely to collapse from undercutting. Once full however, the structures are less effective in trapping subsequent soil movements unless the wall is raised for that specific purpose.

6.11 The SWC measures may have had some impact on the area planted to different crops. It was reported that trapping of water by bunds and soil traps has increased the area under rice. In some places rice has been planted in newly created plots. In others rice has displaced maize. SWC measures are also reported to have allowed an increase in the area under rabi crops due to more residual soil moisture being available after cessation of the rains. The net effect of these area changes is unknown.

6.12 The impact on crop yields production attributable to the SWC programme will depend critically on the technical quality and location of the bunding. Where villagers have constructed earth bunds which lie exactly along the contour, and have provided (where needed) adequate 'turn-ups' at the ends to prevent loss of water trapped by the structures, field bunds have been effective in catching and holding runoff water coming from up-slope [D.17]. To the extent that (a) water has been the chief limiting factor to higher yields, and (b) farmers have planted a crop in the ponded/wetted area, the bunds have also been effective in raising crop yields from the strip of land against the bund which has benefitted. Several farmers mentioned that, once cross-slope bunds had been installed, they felt ready to invest in some inputs - notably compost - as this would be less likely than before to be washed away.

6.13 An unknown proportion of the bunds have not been constructed on the contour. Bunds which farmers have constructed along field edges and which have gradients of more

than about 2% are generally ineffective in detaining eroded soil and runoff water, except where (a) their channels are cross-tied at intervals, and/or (b) at their lower extremities a cross-slope blockage impedes and detains soil and water in a limited area. The net benefit of non-contour bunding is unproven, and could be negative.

6.14 According to farmers, the improved compost being taken from compost pits is effective in halting the decline in productivity on the limited areas treated. It is also reported to reverse the trend to soil-hardening which farmers have noted when mineral fertilisers only are used for four or more years. [D.18]

6.15 A combination of improved crop varieties + good compost + more water in places where water is conserved by bunding/soil trapping actions will probably have a **positive** impact on yields per hectare cultivated. However, the impression gained by the evaluators was that this combination has rarely been achieved so far. The agriculture programme has not yet achieved wide coverage or impact.

6.16 Even where yields have increased, the net impact on crop production will not necessarily be positive. Between 11%-15% of the field area is taken out of production when bunds are constructed. Field bunding may therefore have negative net impact overall, if yield benefits due to more water alone (and/or complementary improvements to agronomy to increase crop yields), do not raise yields by at least that much. [D.20]

Environmental impact

6.17 Insufficient time has passed for all impacts to have become clearly evident. The fact that an effective monitoring system is not yet in place, and baseline conditions were not described at the start of the Project, has not helped. Observed changes which are consistent over time and recorded to be similar from different places are required to provide harder evidence of significant impacts (positive and negative).

6.18 Potential changes in soil and water losses were discussed above. Protective management of PLPs and CLPs has had positive impact in improving potential wildlife habitat, by limiting disturbance and by providing tall-grass cover, both of which were formerly absent.

6.19 The small area of changes in tree+grass cover have so far had no significant impact on climatic conditions at the scale of village or small watershed. However, micro-climates near the ground within protected tree+grass areas will be increasingly modified to become less harsh, as the grasses and

woody vegetation grow towards harvest and maturity.

Social impact

6.20 Since there is hardly any monitoring data available with the project, the evaluation team had no option but to base its conclusions regarding impact of the project on the discussions with some of the village communities and VLC members.

6.21 Given the all-inclusive nature of the PAHAL approach, its activities by definition can cover all the households at the village level. In the case of SWC, widespread coverage of the households in a village has been possible. In larger villages, where the quantum of SWC work proposed is large, the activities have been phased by the VLC. Physical works have been taken up with a hilltop to streamline watershed treatment approach, thereby treating the poorer quality uplands, which usually belong to the poorer households, first. The evaluation team found no evidence of poorer households being left out of SWC activities at the village level. However, the same is not true for the heifer programme : because of its special requirements, this has only involved the better-off households.

6.22 While people state that the SWC measures will improve the quality of their land, thereby improving crop productivity and production (but see 4.33 and 6.12-13 above), these activities have provided other forms of benefits for the people. With a high wage subsidy available for these labour intensive activities, people have gained from securing wage employment in their own villages. As a result, the number of people migrating to Gujarat for seasonal employment fell substantially last year, when physical activities in the villages were increased. Given that 1995-96 was a drought year, this short term benefit was of immense immediate value to the people.

6.23 Since subsidy payments are paid according to the amount of work done, most people were able to earn a "wage rate" on the project equal to or exceeding that prevailing in the area despite their 25% labour contribution. Apart from sustaining the households through the drought period, these wages also provided surpluses which were used to purchase fodder for cattle, to redeem mortgaged land and assets, to deepen wells and to release pawned jewellery. Some people also mentioned that they were able to get their children married in the last year, which would otherwise have been impossible during a drought year.

6.24 In some ways the poorer households were able to gain more from this wage employment. Wherever the better-off

households were not able to carry out the bunding work on their fields themselves, poorer people from the village provided their labour and received the wages. While this increased the availability of employment opportunities for the poorer people, they also ended up indirectly paying the 25% labour contribution for the better-off people. This is not seen as a negative feature by the people, since wages available were anyway much higher than they could have obtained elsewhere. However, it raises questions about ownership of the activities carried out and the rationale behind `contributions' that do not necessarily come from the households benefiting from the activities.[5] Several better-off households were effectively able to treat their fields for free.

6.25 Although short term benefits from the SWC activities are significant, there is no strategy for sustaining the impact over the long run. Even the drop in seasonal migration may well be a short term impact, and will only last while PAHAL continues to create wage employment opportunities in the village. Once the physical works are over, many households may have no option but to revert to migratory employment. Steady state migration patterns can only be judged after some years. Without the necessary focus on agricultural activities, the potential for spontaneous increases in crop productivity is limited.

6.26 It was unfortunate that the project was not able to use the opportunity provided by the large scale physical activities and the high level of cash subsidy being pumped into the villages. Had the subsidy been used more innovatively, it might have been used to create a savings base in the village. This could then have been used by the people for productive investments in the future.

6.27 The efforts at increasing the involvement of women at all levels has had significant impact in the project villages. Women are far more visible, specially in public fora, than they would have been before the project started. Their participation in training programmes, awareness camps and meetings has provided the women with access to information ,and in some cases the technical skills, for implementing the project activities. In several villages, men commented that most men do not now object to women from their households taking part in project activities. Some women felt that their status within the household has increased now they are able to earn a cash income. It is difficult to comment on whether the prevailing gender relations in the villages have undergone a change as a result of these changes. The project will have to

---

[5] Sida had been assured after the 1995 Annual Review that this no longer happened, and that better off farmers had to work on their own land without labourers.

continue with its focus on the special needs of the women in order to engender long term change.

> Some of the Evaluation Team members were having a meeting with the PAHAL Block level team in Dungarpur Block when there was a loud noise heard outside the room. An angry group of about thirty women marched into the room and were shouting at the top of their voices. When some of the team members tried to ask them to meet outside the room, they refused and insisted that they wanted to be heard inside the room and by none less than the PO. It took some time before they calmed down a bit and explained the reason for their visit and their anger. They were not happy with the measurements of the field bunds they had constructed and felt that they were being paid less than what they should be rightfully paid. They exclaimed loudly that they would only accept the 'correct' payment and would not settle for anything less. This delegation of village women was accompanied by about six to seven men, as we realised later, who sat quietly outside the room smoking their *beedis*, while the women carried out all the negotiations.

Financial and economic impact

6.28 It is important to distinguish between the financial impacts and profitability from point of view of households, and economic impacts from the point of view of society. In financial terms, the project has been highly beneficial to households because of the local wage employment created. Average resource transfers amount to almost Rs. 7 lakhs per village over the life of project.

6.29 Similarly, the financial profitability of most of the project investments is also assured from the point of view of households. Households have either borne almost no cost, and/or have received large capital and recurrent subsidies. Any level of income will therefore make the investments highly profitable. With almost all the costs borne by the project, the financial rate of return for households is extremely high.

6.30 The economic profitability and impact is more difficult to judge, but is also more questionable. The major investment of the project has been in soil and water conservation (Rs. 540 lakhs; SEK 10.8 million). There is reason to believe that the unit costs of SWC costs are higher, and the economic benefits lower, than assumed by the project.

6.31 There is uncertainty over the total length of new bunds constructed[6]. Actual costs per hectare may therefore be

---

[6] On the assumption that 85% of the SWC was for field bunding (Rs 459 lakhs), a total of 3,825 kilometres of new bunds should have been constructed (@ Rs 12 per running metre). Layout has varied, so it is not possible to estimate accurately what this means in terms of area treated. If 300 metres of contour

rather higher than the calculated average cost of Rs. 3,500 /ha.. An unknown proportion of the field bunds are ineffective (see 5.16), and an unknown proportion of treated land has not been planted. The cumulative effect of this could significantly increase the average costs. For example, if 10% of the work billed was not carried out; if 25% of the area treated has ineffective bunds; and if 25% of the remaining (effective) area is unplanted; the cost per effectively treated planted hectare would double to Rs. 7,000. In the absence of data on these variables it is impossible to say whether this is an over- or under-estimate.

6.32 The economic benefits of the SWC works are uncertain , for reasons already explained (6.12-16). Crop benefits will vary according to the type of land bunded, crop variety, manure application, and other agronomic factors. Nala plugs and lowland bunding are likely to be highly productive investments. The value of upland bunding is much more questionable. Improvements in soil moisture alone are unlikely to offset the 11-15% of land lost through bunding, let alone generate benefits commensurate with the financial costs of bunding. Most of the SWC funds are reported to have been spent on upland bunding.

6.33 The evaluators are not aware of reliable cost-benefit studies from elsewhere in India which could be used as a guide for the project. This makes it even more important that a reliable impact study is set up within PAHAL if it is to continue. Such a study would need to be carried out over a number of seasons in order to cope with the very high year to year variation in rainfall[1].

6.34 The costs and benefits of the forestry programme (25% of project local costs) have not been examined in any detail. High wage and input subsidies may have also encouraged an over-investment in trees, and contributed to an evident lack of maintenance/protection in some cases. However, in theory, PLPs and CLPs on good sites should be highly profitable with good management. It is not known what proportion of the plantings fall into this category.

6.35 Protected grass production is a major benefit of these plantings. However, there may be external costs

---

bunds are constructed per hectare (Rs. 3,600 /ha.), the total area treated would be 12,750 hectares. If field bunded on a grid pattern, the area treated will be less. How much less depends on the average size of the bunded plots. If bunded plots average 0.25 ha., and assuming that one of the outside bunds is provided by a neighbouring farmer, 500 metres of bund are required per hectare (Rs. 6,000 /ha.). The total area treated would then be 7,650 hectares.

[1] Annual rainfall for Dungarpur District was 1171 mm in 1994 and 544 mm in the following year.

associated with (I) the temporary loss of seasonal grazing in short term ; (ii) loss of grazing as trees mature (if PLPs are used for timber production and not poles/fuel/fodder); and (iii) effects on `sacrifice areas'. There is also a risk that the local market will be saturated when all these plantations mature at same time.

6.36 It is not possible to make an accurate assessment of the impact of the livestock programme because of the lack of reliable data. The assumption that the economic returns to improved breeds (incl.AI) are higher than could be achieved by low-cost improvements to existing livestock system needs to be critically examined. The Danga Dai (female paravets) initiative may represent a promising alternative. Doubts over the sustainability of some of the livestock interventions will also reduce expected economic returns.

6.37 The heifer project represents an important local trial of a model that has succeeded elsewhere, where feed supplies and veterinary support have been assured. However, the economics of the PAHAL trial do not appear to be as robust as indicated in the revised version of the internal evaluation report. For example, if loan repayments on a third of the capital cost absorbs one-third of the milk income, the repayment of a loan on the total capital cost (Rs.28,000) would absorb all of the milk income. This would suggest that, while the heifer enterprise as subsidised is financially profitable for beneficiary households, the economic returns may not outweigh the costs in this situation. The costs of the intensive veterinary care required, and the risks to the sustainability of the enterprise implied, are a further concern. The heifer pilot project needs to be re-evaluated once more actual data on costs and returns are available.

6.38 The lack of reliable M & E data severely constrains the extent to which it is possible to assess the actual or potential economic impact of the project. However, in the opinion of the evaluators, there are sufficient grounds for doubting whether the project has been cost-effective (ie. whether impact has been achieved at the lowest cost).

6.39 The cost-effectiveness of project interventions in terms of increased productivity is arguable. If the objective is to increase agricultural productivity, it is far from clear that an overwhelming emphasis on SWC is the most cost-effective approach. Similar questions can be raised at the livelihood objective level. While the project has been very effective at increasing incomes in the short term through providing wage employment, it can be questioned whether the project as currently implemented represents the most cost-effective way of improving sustainable livelihoods over the medium or long term.

6.40 In the opinion of the evaluators, the combination of

(I) the high subsidy rates, (ii) the unlimited funds available to VLCs in the latter stages, (iii) the limited menu of options, and (iv) the relative lack of technical control latterly) has lead to significant amount of physical work (particularly SWC) of limited benefit. In the absence of reliable M&E data it is not possible to estimate the proportion of works to which judgement applies.

6.41 According to the project, most of the problems with technical control have now been sorted out. However, the problems created by the very high subsidy levels remain. As long as farmers are paid by PAHAL to build SWC structures or to plant trees, there is a strong likelihood that these works will be done for the wrong reason : the subsidy payments. There is no guarantee that these works are what farmers want; that they will be properly and appropriately constructed; that the land will be planted; or that the structures will be maintained. Indeed, experience elsewhere suggests the opposite is more likely (Kerr et al, 1996).

Institutional impact

6.42 The institutional impact of the PAHAL project can be analysed at two levels : its impact on other institutions, and its impact in terms of village level institutions. As regards the former, the project has certainly drawn considerable attention from both government and non-government institutions. Evidence of impact on the work and programmes of others is not yet visible, but may be expected. The only example was mention that the WD&SC Department is now considering the delegation of powers to users' committee, and modifying its technical designs. The FD also expanded the scope of some of their users committees.

6.43 In the last one year the focus of the project has been on developing capacity of the VLCs to plan and implement development activities with the support of the project. Much has been achieved in this regard and there is evidence of VLCs taking on increasing responsibility for implementing and managing the ongoing project activities at the village level. Members of several VLCs narrated how they have also tried to influence the working of other Government projects in the area. Some villages have also seen a change in the leadership of village panchayats.

6.44 While the VLCs are being strengthened, the VLO remains an amorphous concept. In principle, the identity of the VLO should be stronger than that of the VLC and the formation of a strong VLO should precede the selection of the VLC members. The reverse seems to have been the case in this project : VLCs are easily identifiable by all whereas even the existence of a VLO is not known and understood by the

village people in many cases.

6.45 PAHAL has had other positive impacts. The attitudes of government staff deputed to the project appears to have changed and broadened, and their skills developed. NGOs such as BAIF and RSS have expanded into new spheres of activity, increased their staff, and gained experience.

Legal and policy impact

6.46 No specific impact on the legal or policy environment can yet be identified. The inclusion of the PD in the State level forum for the preparation of the Ninth Five Year Plan nevertheless shows that there is interest among policy makers in incorporating lessons from PAHAL into the policy framework.

7. SUSTAINABILITY

What is the influence of the following factors on the sustainability of project results and impacts discussed above, if the project were not to be continued?

7.1 While it is clearly too early to expect sustainability, an analysis of sustainability at this stage nevertheless raises some important concerns. The influence of technical, environmental, social, economic, institutional, and legal/policy factors are considered in turn.

Technical

7.2 It is too early to assess technical aspects of sustainability. Major cash payments for SWC works and forestry activities have only recently come to an end in Bichhiwara and Dungarpur Blocks. The extent to which people will maintain the works now that funding has ceased is not yet clear. If, as appears likely, a substantial portion of the physical works have been primarily motivated by the subsidy payments, maintenance will be poor and the investments will deteriorate.

7.3 Ecological aspects of sustainability (irrespective of other social, economic etc. determinants) relate to the maintenance of the self-recuperative capacities of soils and perennial vegetation. Over-exploitation through poor management reduces it. The good management of grass, soils, trees etc. needs to strike a balance between off take and regeneration, and thus maintain sustainability. The maintenance of good cover over the soil in the monsoon, plus improvement of soil structural conditions, plus non-destructive harvesting, plus improvements in plant nutrition, are the required criteria for agro-ecological sustainability.

7.4 Agro-ecosystems require appropriate management over time if they are not to either (a) lose productivity and be no longer able to produce the outputs needed because of soil impoverishment; or (b) to revert via natural succession back to the climax vegetation condition (which is unlikely in the project area). Whether such management is applied in future depends on (a) the villagers gaining appropriate skills in management to maintain the required condition of soil and vegetation, and (b) their concern and enthusiasm to exercise such skills because it is in their interest to do so.

7.5 Perceptible real and quick benefits (e.g more fodder, increased yields etc.) from any activity will favour sustained attention, care and management by farmers of the factors which produce the benefits, especially when based on their (enriched) understanding of the processes and linkages involved, as in e.g. improvements in streamflow.

7.6 Villagers need to be able to call on adequate technical help and advice from elsewhere, at least until such a time as they feel self-confident in their abilities to manage the improvements they had adopted/adapted.

Environmental

7.7 The likely environmental effects of the project have been covered in section 6. These are expected to be sustainable, subject to the general caveats regarding maintenance. There are two main environmental risks which could limit sustainability. First, severe and prolonged drought, which could result in harvesting of grasses and trees without adequate periods to allow for root-zone recuperation. Second, very severe storms (statistically of infrequent occurrence) which could cause such severe damage to physical works such as bunds and soil-traps, anicuts (weirs) and 'farm ponds' (small earth dams) that villagers would be unable to repair them quickly and effectively.

Social

7.8 While the short-term positive impact of the project is clearly identifiable, its long term sustainability is less clear and less assured. The high subsidies which are a feature of PAHAL make it easier to get people involved in project activities, but are not conducive to participation and self-reliance. If, as appears likely, much of the `participation' has been motivated by project payments, the sustainability of the activities and institutions once the project withdraws will be limited.

7.9 Other features of the project are more supportive of sustainability. For example, the all-inclusive approach at the village level removes any possible conflict of interest among the different groups of people and seems to be potentially sustainable. On the other hand, there may be potential for conflict in future, as new leadership emerges in the villages and as existing systems are challenged as a result of the transparency shown by PAHAL. In some villages the VLCs are already trying to influence the panchayats and other establishments that support development activities, pressurising them to explain the differences in wage rates and asking for more transparency in their way of working. The question of how far such efforts are sustainable in the long run is difficult to answer at this early stage.

7.10 There is in addition the potential for negative response from vested interests, as the poorer people develop an asset base and move towards more secure livelihoods. In one village in Bichhiwara Block, for example, the treatment of the upper catchment area of the micro watershed is believed to have led to the empty *talab* (a small reservoir). Given the

good rains witnessed during the last monsoon, this should have overflowed a long time ago. The poorer people, who have their lands upstream, feel that they will be able to grow a wheat crop for the first time in winter on the residual moisture in their newly treated fields. The better-off households, on the other hand, have not had their fields treated yet and will not be able to grow their wheat crop, as they have been doing regularly in the past, since they depend on irrigation water from the *talab*. Since this is the first year when these changes have been witnessed, it will be some time before the impact on the social relations within the village can be clearly assessed.

7.12 Increased women's involvement seems to be acceptable to most men in the villages. In several villages it was mentioned that about 80-90% men no longer objected to their wives attending meetings and training programmes, which are usually in mixed groups with men. This would have been unheard of five years ago. Although some of this new found confidence among women and their visibility in public fora is likely to continue in future, such participation by women seems limited to project-related activities at present. In villages Viri and Lolokpur in Dungarpur Block, for example, the villagers equated the VLO to an existing traditional village institution which meets once a month to discuss all kinds of issues. This continues to be a male gathering.

Financial and economic

7.13 PAHAL is currently completely dependent on outside financial assistance, as are all of the VLC/VLOs. Government line departments and NGOs could not by themselves sustain the support activities required. On the other hand, the relatively small scale of the project in relation to other government programmes means that it could, in theory at least, be funded entirely by GoR. This would, however, mean that it was even less likely to deviate from government norms and procedures.

7.14 The sustainability of the investments provided by the project will depend on the extent to which benefits exceed maintenance costs. This will depend on the profitability of the investments, some of which (such as SWC and forestry on poorer sites) are questionable.

7.15 High subsidy rates may also be expected to reduce the degree of commitment from households, and therefore sustainability. With (effectively) 100% subsidies, households and communities have not contributed any of their own resources, and have been paid to participate. If the enterprise fails for any reason, people have only lost the future stream of income (less maintenance costs). The incentive to maintain and protect the investment would be higher if people had actually made a significant contribution

of their own, as had been the original intention. There is also a real risk that the subsidies have encouraged farmers to build SWC structures or plant trees that are at best not the most appropriate, or at worst not wanted. The current high subsidy levels are not supportive of sustainability.

Institutional

7.16 A number of institutional factors will contribute to the sustainability of the project interventions. These include the independent registration of PAHAL & VLOs; the presence of experienced and competent NGOs in the district, and the linkage established by PAHAL with the NGOs; the training provided, and skills devolved to, the staff and VLC members; the process of decentralisation within PAHAL and emphasis on the involvement of people in implementation at the village level; and the reserve funds available with VLOs.

7.17 A number of institutional factors will work against the sustainability of the project interventions. These include the transient role of PAHAL and the related uncertainty regarding the project period; the short and uncertain tenure of the Project Director; the limited tenure of project staff who are on deputation or employed on contract; the absence of support systems for the VLO in areas where NGOs are not present; the possibility of conflicting leaderships within a village as the Panchayat gains significance; and the creation of different users' groups under different programmes by different departments.

7.18 The present approach of strengthening the VLCs is not a sufficient condition for creating sustainable VLOs. Little attention has been paid so far to strengthening village-wide institutions, and there is little understanding of existing village institutions in the project. Without an adequate emphasis on developing strong VLOs, the VLCs will remain unchecked, and it will not be possible for the village people to monitor effectively the activities of their VLC .

7.19 Since VLOs do not have an identifiable shape at present, VLCs tend to be equated with a village institution. Most of the village people met by the Evaluation Team felt that the life of the VLCs, and hence that of the village institution, will end once PAHAL ceases to operate in a village. Some VLC members felt that they would be able to approach agencies like the DRDA to obtain funds for development activities in the future. As the PAHAL programme matures, and reaches saturation point in terms of the SWC and PLP activities that can be undertaken in a village, there is need to discuss how the VLOs can prepare to sustain the development of their natural resources and to take up new responsibilities.

7.20 The distinction between the long-term roles of the VLO and the Village Panchayat warrants serious consideration by the project. If there is little difference, this could result in VLOs being undermined. It also raises the question as to why PAHAL is not working with Panchayats as well as or instead of VLOs. Without money from PAHAL, VLOs will be dependent on a similar source of funds as are Panchayats : Government. The key to the survival of the VLOs therefore lies in the extent to which it can find a distinct role post-PAHAL, and/or the continuation of a minimum level of funds and external assistance. It is possible that VLOs and Panchayats will remain different in character and function, but the potential for conflict and/or overlap between the two bodies needs to be given more thought in the preparation of a possible second phase.

Legal and policy

7.21 The recognition of VLOs by the other government departments would strengthen their position, thereby contributing to sustainability. A clearer policy position on the future role of `non-government' agencies vis-a-vis government would do the same for PAHAL.

A group of men were asked what they would do if PAHAL stopped providing support. One of them replied :

"What will we do! We'll spread out our palms in front of another government agency. If not PAHAL, it could be another one."

8. REPLICABILITY

How replicable, in whole or part, is PAHAL to other areas and institutions?

8.1 Three aspects of replicability can be considered : replication of parts of the PAHAL approach within other agencies ; geographical/sectoral expansion within Dungarpur; and the replication of PAHAL as a whole in other Districts.

8.2 Two general features of PAHAL will tend to limit replicability in any of these scenarios. First, the fact that the project is, at least in part, dependent on Sida involvement and influence will tend to limit the extent to which it can be replicated in the same way without Sida. Second, the dependence of project activities on high subsidies must limit its replicability. Villages and farmers who have not benefited so far are likely to await the next employment-creation programme rather than invest without subsidies. The high cost per village will also limit the extent to which government can afford to replicate the programme.

Partial replication

8.3 The extent to which parts of the PAHAL approach could be transferred would depend on the policy and institutional context, and the new environment, to which the lessons may be transferred. The unique features which could be useful for replication include the effectiveness of small, semi-autonomous organisations within the government framework; GO-NGO collaboration; a multidisciplinary, integrated approach to development, starting from the planning stage; flexibility and the ability to devolve financial and decision making powers closer to the field; and a relative emphasis on transparency and HIRD.

8.4 While there is much that could be transferred to government line departments, it is by no means certain that it can be. The structures, procedures and culture of an institution are not independent of each other. PAHAL has been able to operate in the way it does (and to change) because of the flexibility granted to it, its relative autonomy, and the lack of established practices and procedures. PAHAL thus has many advantages that are not found, and would be difficult to create, in governments departments. It has much greater freedom of action, and is less bound by the need to spend budget allocations - Sida funds at least can be carried forward. A more relaxed attitude to financial targets is not possible within the government system. Government departments may for these reasons find it difficult to adopt individual elements of the PAHAL approach.

Expansion within the District

8.5 The geographical expansion of PAHAL would be relatively easy to effect, although there are constraints, and it is not recommended at present. The major reason for not expanding - apart from the need to review, improve and consolidate in existing areas - is the absence of a clear long term strategy for either PAHAL or VLOs. The rationale, vision, and objectives for PAHAL needs to be reformulated and agreed before any expansion is contemplated. This is discussed further below. The sectoral expansion of PAHAL is likewise not recommended at this stage, although limited expansion could be considered in a future phase.

Replicability as a whole

8.6 PAHAL as an approach could be replicated in other Districts, especially in homogeneous tribal areas with some existing NGO presence. However, it needs to be pointed out (i) that PAHAL is still a developing example, (ii) that the process would need to start again from scratch in a new area, and (iii) that the project is not cheap, not least because of the subsidy element. PAHAL as a model cannot simply be replicated in another area. The attitude of the State Government and line departments to any replication, and the willingness to allow a process approach in new areas, would also be critical.

8.7 A number of land management principles (evident in PAHAL) are transferable to any other situation:

- the protective management of grass+tree lands with respect to maintaining their water-absorption, resilience, stability and sustained productivity of water and plant products;
- the conservation of rainwater not only on the surface in ponds, tanks etc. but also within the soil as plant-available moisture, and below the soil as ground water;
- minimising rainsplash-erosion and -induced surface compaction by ensuring sufficient cover (leaves, crop residues etc.) on or very close to the soil surface;
- minimising rilling+gullying erosion by limiting slope lengths, limiting runoff velocity and 'armouring' flow channels on uncontrolled gradients.

8.8 Other technical features of PAHAL relating to land management and husbandry may not be directly transferable as they are dependent on local conditions:

- management methods - of crops, trees, grasses, animals - may vary according to people's requirements from them and according to their own skills;

- species and varieties of crops, trees, grasses suited to one location may be variously less suited in other locations;

- the 'mix' of physical works required may be different according to landform and how the various forms of local agricultural systems - e.g. cultivated fields - are distributed across them.

Implications for the future of PAHAL

8.9 This discussion has emphasised both the unfinished nature of PAHAL, and the need for a re-visioning of what a `finished' PAHAL might or should be. This will be a key question for forthcoming preparatory year. Two options are presented here as an early contribution to that debate. These two options are not mutually exclusive, although they are distinct. There is no reason why these and other models could not be pursued simultaneously in different areas. However, both options, and particularly the latter, are dependent on the skills and experience available within PAHAL and VLOs.

8.10 The first option would involve further developments in the way in which government subsidies and services are delivered to villagers via PAHAL, but would no longer expect the project to develop the technologies used to any great extent. PAHAL would continue to develop as an alternative delivery agency. The innovation to be piloted would be for PAHAL to change from being a complement to other government departments and agencies, to becoming an alternative to the government machinery. This could involve, for example, PAHAL taking over responsibility for all land use/agricultural activities in one Block. If Sida or another donor could provide funds equivalent to planned government expenditure in the Block, this would allow the project to undertake a realistic pilot scheme, but without requiring line departments to contribute funds.

8.11 A variant of this scheme could pilot PAHAL as a service agency for fund-holding villages and/or panchayats. Each village could be allocated a budget (spread over a number of years) as and when the VLC/VLO was judged to be sufficiently strong and competent. This budget could be equivalent to current average GoR/I expenditure per village. PAHAL's role would be to assist the village to plan and implement its natural resources development priorities, funded from the budget controlled by the village. PAHAL would only supply those goods and services (materials, seeds, training,

technical advice, etc.) which the village wished to purchase. PAHAL's costs would be paid by the village. In the longer-term, villages could be permitted to purchase goods and services from a number of competing agencies (NGO, government, or private).

8.12 The second option would involve a more focussed attempt to develop innovative ways for improving sustainable livelihoods and land use for resource-poor tribal households, based on a detailed understanding of existing systems and the merits of recommended technologies. This was one of the original intentions of the project. A less subsidised, more participatory, and more skill-intensive approach, probably in a smaller area, is required if significant progress is to be made in this area. The results from this initiative could feed into other government and non-government programmes.

8.13 Reducing the harmful effects of subsidies would have to be a key feature of this second option. The difficulty of challenging the prevailing culture of subsidy among both villagers and government is recognised. However, if this culture is not challenged, the prospects of making a sustainable impact on poverty, of promoting self-reliance, or of developing more profitable agricultural technologies in partnership with farmers is limited. The greater challenge for PAHAL is not to do the same things in a better way, but to do something different.

8.14 There are two broad approaches to dealing with subsidies. The first, and preferable, approach is seek ways of developing sustainable livelihoods and/or promoting watershed development without subsidies. Supporting community organisations or savings groups could be considered. The second, and easier, is reduce the harmful effects by altering the way the subsidies are used and managed. Different ways of using subsidies could be found, while ensuring that the people increase their contribution. A part of the subsidy available, for example, could be transferred to the village fund, or to the household savings account, which can help create a savings base in the village. This might also ensure a more sustainable development process at the village level.

9. CONCLUSIONS AND LESSONS LEARNED

9.1 PAHAL represents an important and innovative attempt to improve natural resources based livelihoods and management in tribal areas. Expectations in both the original and revised PoAs were ambitious, but a considerable amount has been achieved in the first four years. It is too early for the steady state to have been reached, to assess the final impact of the project.

9.2 The project has suffered from a lack of clear and agreed objectives, and from an insufficiently developed annual planning and review system. Inadequate internal monitoring and evaluation remains a major weakness.

9.3 Judgements on the relevance and impact of the project depend critically on the assumed role and objective of the project. As a short-term employment generation/welfare project, the project scores highly with both government and local people. Compared with other government schemes and agencies, the project has created a relatively effective, transparent and participatory GO/NGO delivery agency. When fully developed PAHAL will have wide potential application as an example for the delivery of government subsidies and services. The combination of government and NGO skills, together with the evident commitment and application of project staff, have been important determinants of the achievements to date.

9.4 As a development project aiming to improve livelihoods and land use on a long-term basis, PAHAL's contribution is more uncertain. Although the project has delivered substantial short-term employment and welfare benefits to the villages, it has not yet achieved a significant sustainable impact on livelihoods, nor yet developed innovative approaches in this area. Some of the SWC and forestry work seen by the evaluators was technically sound and is already proving beneficial, even if the area covered by improvements attributable to the project is relatively small compared with the total area covered by project villages. But some of the work is of doubtful quality and value, and is unlikely to be maintained in the absence of subsidies. It is not clear, for example, that the benefits of some of the SWC works will justify the substantial costs incurred.

9.5 There is no reason in theory why the project cannot deliver both immediate employment benefits and develop approaches which improve livelihoods over the longer term. But in practice it is very difficult to do both. The high subsidies which have been made available to villages have ensured that the employment/welfare motive has dominated. The result is a physical works programme that is driven by subsidies, rather than by a participatory analysis of what

represents high priority, beneficial, and appropriate investments. The combination of high subsidies, a limited menu of acceptable technologies and unlimited funds distorts investment incentives, discourages self-reliance, undermines indigenous innovation, and makes sustainability unlikely.

9.6 This difference between PAHAL as a delivery agency and PAHAL as a development agency explains much of why opinion on the project is so divided. Most PAHAL staff and villagers and government see the project as a success story when compared with other government tribal area or watershed development programmes. Other observers would argue that the key test for the project is whether it is likely to make a long term impact on livelihoods and land use. The problem for PAHAL, as with many other watershed development projects in India, is that it is expected simultaneously to fulfill both an immediate employment/welfare role and a longer term land management/livelihood development role. These roles are difficult to combine and may be conflicting. In the opinion of the evaluators, a change of approach is required if the longer term impact of PAHAL is to be increased.

9.7 Increasing the long term impact of PAHAL will require action on a number of fronts. The list below is intended to highlight those aspects which, in the opinion of the evaluators, are the most important :

- project objectives
- subsidies
- the quality and maintenance of physical activities
- the role, strength and sustainability of VLOs
- project planning, review and reporting
- monitoring and evaluation
- staff skills and remuneration
- the agriculture and livestock programmes
- the contribution and management of consultants

9.8 Much will depend on the extent to which the project can agree on the lessons of the first phase, and draw up a realistic plan for the next. But most importantly, the project needs to clarify its role and objectives. The first phase of PAHAL has addressed a wide, ambitious and possibly conflicting agenda. PAHAL has made more progress in some areas (the effective delivery of government funds) than in others (the development of sustainable livelihoods). To some extent this is inevitable given the short time period involved, and the greater challenge of the latter. But it is probably also the case that the innovation in the area of farming systems and livelihoods requires a different, more skill-intensive approach in a smaller number of villages. Part of PAHAL at least would need to change if it was to play this role more effectively.

9.9 The project would need to concentrate more on the quality of the activities, how appropriate these are to the farming/ livelihood systems of different groups, and how the sustainable impact on livelihoods might be increased. Ways of reducing the harmful effects of subsidies have to be found. All this will require enhanced and different skills among project staff, and changes in the way of working : more village based, diverse, locally/socially sensitive, exploratory, and participatory.

9.10 Another option is to develop PAHAL as an alternative service and delivery agency. This might need to be implemented at a larger scale, but is more likely to be achieved with the current project staffing and approach. Fewer changes would be required. The possibility of two distinct agendas, and possibility even two separate but linked projects, needs to be considered.

Lessons learned

- Clear and agreed project objectives are essential. The management, monitoring and evaluation of the project is made much more difficult if these do not exist.

- Effective monitoring and evaluation systems are essential for the same reasons.

- A quasi-autonomous NGO made up of government and non-government staff can be an effective and efficient agency for the delivery of government funds and services to tribal areas.

- Responsibility for managing (though not necessarily constructing) physical works can be largely delegated to the village level. This has benefits in terms of efficiency, and may confer a greater sense of responsibility for the works.

- The objectives of immediate employment generation objectives and a longer term land-livelihood development are likely to conflict. Employment generation is likely to dominate where high subsidies are made available.

- High subsidies are not cost-effective, distort investment incentives, make sustainability unlikely, and may lead to unnecessary and inappropriate physical works.

10. RECOMMENDATIONS

This section contains recommendations of two types : those relating to the next year of the project (ie. immediate), and those which concern the future development and direction of the project.

Immediate recommendations

1. The project should be continued into a second phase, but with some significant changes in approach. The existing project should be extended for up to one year from March 31 1997 in order to reduce the current uncertainty and to allow for the thorough preparation of a second phase proposal.

2. The project should prepare a draft Logical Framework and annual work plan for the project extension period (1997/98), for initial discussion during the Joint Review Mission. Improvements to annual planning and reporting procedures need to be agreed at the same time.

3. No expansion of either activities or area should be undertaken during this interim phase (although some rationalisation of the number of villages covered within each block may be required). The main focus should be a qualitative intensification of effort in the present villages with a view to strengthening the VLO as a functional institution; achieving a reliable problem analysis with villages; and improving the technical validity and effectiveness of SWC activities.

4. High priority should be accorded to the design and implementation of an effective monitoring and evaluation system within the project. This needs to be capable of showing trends in socio-economic and agro-ecological aspects of the village communities being attended by the Project.

5. An rigorous evaluation of the extent, effectiveness and impact of different locations and types of SWC works is required with a view to improving their effectiveness. This should cover a large, representative and unbiased sample of the different types of SWC works.

6. Revised procedures for identifying and managing external consultants and researchers should be agreed between Sida and the project.

7. The project should consider setting a financial limit for physical works in each village with a view to ensuring that expenditure is more carefully and efficiently planned and allocated.

Recommendations for the future

The evaluation team is wary of making detailed recommendations for the future on the basis of this evaluation alone. The following recommendations are derived from the main conclusions.

8. Sida should support an early visioning workshop, prefaced by additional LFA training, to begin the process of designing a second phase. Any project-level LFA planning needs to be based on, and informed by, participatory planning exercises at the village level.

9. As part of the preparation of Phase II, in-depth studies of both farming systems and livelihood systems should be undertaken. This would give clearer indications of critical needs, hindrances and/or potentials, where Project suggestions and offerings could be most effective, and in what order of priority. The next phase (and the development of any LFA) needs to be based on reliable problem analysis.

10. The project should consider and test alternative ways of reducing or removing subsidies, and for improving the planning and allocation of investment resources at the village level.

11. Steps should be taken to increase the participatory natural resource and livelihood development skills within the project if innovation in this area is to remain an objective.

12. The agricultural programme should be strengthened and reorientated in order to maximise the benefits from other physical investments, notably SWC. Good follow-up is required after the physical-works phase. This should aim to increase awareness of the significant crop variety, soil moisture and compost/plant nutrients synergies.

13. The objectives of a second phase should emphasise the aim of assisting local people to manage their resources more effectively and sustainably for their own and their childrens' benefit. This would change the emphasis of the original and revised PoAs which imply that the resources themselves are paramount, and the people have to be taught how to manage them.

14. The Project has initiated processes of change and improvement which will continue to develop beyond the end of this phase. It is recommended any Phase II should include an element of follow-up and monitoring in current villages, so as to provide lessons for PAHAL and others on the process of evolutionary change.

Sida

DNR & E/ALA
Asplund/Ingevall

Sixth Draft 1996-07-12

TERMS OF REFERENCE

Evaluation of the Pahal Project (Dungarpur Integrated Wasteland Development Project), Rajasthan, India.

1 Background

The project is based in Dungarpur district in southern Rajasthan, an area generally considered as severly degraded and where the main livelihoods come from subsistence agriculture and labour migration. The population of the rural areas are mainly tribal.

The original Project Document (1991) sets out a long list of general and specific objectives of economic, ecological and social nature (see annex 1) emphasizing:

- rehabilitation and conservation of degraded and potentially productive land in Dungarpur district
- developing and introducing sustainable and diversified management systems for natural resources on Govt. wastelands, village and private lands with special emphasis on independent management of Common Property Resources;
- create productive resources, promote gainful employment and improve living conditions especially for the poorest sections of the district population
- involve the local population in all stages of the project and increase village responsibility in management of natural resources.

The Plan of Action 1995 contains a revised set of aims and roles of the project (Annex 2) establishing the overriding purpose as strenghtening sustainable land use management for local economic development, contributing to socio-economic development i Dungarpur district and operational policy development within rural development in Rajasthan.

The project was designed as an area project having two major thrusts - **method development** in the fields of ecologically sound production and rehabilitation of degraded natural resources including institutional development for support to rural development and for increased community participation **and**

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm
Telephone: + 46 (0)8-698 50 00. Telefax: + 46 (0)8-20 88 64
Telegram: sida stockholm. Telex: 11450 sida sthlm. Postgiro: 1 56 34-9

implementation based on these methods in Dungarpur district, with the aim of generating a more sustainable livelihood for the people in the area (area impact). The balance between these two, method development/implementation, and the achievements in both respects shall constitute the prime focus of the evaluation. However, in order to assess the achievements and particularly the innovativeness and usefulness of the project´s approaches (strategic impact), comparison will have to be made with other rural development schemes with basically the same objectives as PAHAL, but executed through line agencies or DRDA.

2 Purpose of the Evaluation

The general purpose of the evaluation is to provide information to the Government of Rajasthan and Sida on the development of the project to date, on its relevance in a wider rural development perspective and to give recommendations on possible reorientation/adjustments of the project in order to increase its impact in relation to the aims stated below:

- to develop and introduce organizational and participatory approaches as well as technical methods with the aim of rehabilitating degraded land and water resources and developing ecologically and economically viable landuse

- to demonstrate the usefulness of the approaches and methods through sustained impact at field level

- to contribute to the further development of rural development policy and strategies (incl institutional development) in Rajasthan.

Major dimensions to be analysed and assessed are:

- the **relevance** of the Project in relation to major problems, visions, policies and programmes within the filed of land husbandry and rural development in Rajasthan;

- the **effectiveness** of the Project in terms of design, consistency and logic between problems to tackled, objectives, means and resources;

- **long terms effects and impact** of Project interventions including replicability of and models and methos developped;

- efficiency and in particular **cost efficiency** of Project activities and interventions;

- **sustainability** of results and effects including ecological effects and sustainability, cultural/social sustainability, institutional and economic/financial sustainability.

3 Specific tasks

The Evaluation Team shall consider, but not necessarily be constrained by, the following specific issues;

1. Broadly describe and assess achievements and shortcomings of the project against objectives and targets with regard to;

a. Implementation

Assess the physical, environmental and social impact (land rehabilitation, use of sustainable production systems, increase in production, living standards, community management) of the project in project field areas, and the distribution of benefits in terms of social/economic/gender stratification

Describe and analyse the impact of project intervention in relation to the different categories of land (community, private, Govt) on which the project has been operating

Assess changes in attitudes, abilities and approaches within the district administration and local communities.

b.Method development related to;

Rehabilitation of degraded land and sustainable production:

Evaluate the approaches, methods and techniques relating to agricultural production and land rehabilitation in terms of:

- to what degree they can be deemed to be innovative and different from existing and generally applied methods
- productivity
- ecological sustainability
- social/cultural acceptability including role of local technical knowledge in method development
- cost efficiency
- economic/financial viability

Assess the extent to which the project enables the community and VLC members to make use of the resources made available in a sustainable and economic way

Assess the attention paid to water conservation and innovative techniques for water use and harvesting within the project

Increased local participation.

Evaluate the approaches and methods applied with regard to local participation and local level management of natural resources in terms of:

- quality in methods used and the capability of the staff
- degree and quality of local participation, particularily looking at degree of real decentralization of responsibilites, ownership of local development plans, development of local institutions and technical ability for joint action and management of created assets
- assess how/if the different roles, needs and possibilites of men/women, tribals/non tribals are reflected in the management plans and project operations

Assess quality and adequacy with regard to human resources development within the project, paying special attention to gender awareness, participatory approaches and technical capability.

2. Assess the overall balance between method development and general implementation.

3. Assess the adequacy and consistency of the project design in relation to stated objectives (with respect to ia organizational set-up, management and instruments for follow-up and monitoring);

a. Project organization

Evaluate the special project organization and its achievements and shortcomings in terms of;

- degree of innovation
- contribution to multidisciplinary, participatory and gender sensitive approaches and ways of working
- technical competence
- efficiency and ability to fulfill and develop in its intended role
- development of financial mechanisms, cost-sharing arrangements and flexibility conducive to the longterm aims of the project;
- influence on other relevant parts of the district administration and district projects
- institutional sustainability

b. Evaluate the effects of the involvement of and cooperation with NGO:s in terms of;

- achieving real partnership with concerned Govt. administration and local communities
- professionalism and ability with regard to people´s participation, empowerment and gender awareness
- technical ability and the development of productive methods and techniques
- influence on the Govt.administration and its way of working

c. Assess the capability of the project to monitor and evaluate activities and results and provide feed back into the project

d. Assess adequacy of external linkages, exchange of experiences and research related support for the project

4. Assess the role and the quality of the external consultancy inputs as well as the capability of the Project to request and utilize external support.

5. Assess the relevance of the project in relation to other rural development efforts and policy development within that sector in Rajasthan;

Assess the role of the project as input into state policy- and institutional development, identifying potentials and contraints. The assessment shall inter alia take into consideration the overall innovative character of the project and approaches developed in comparison with other ongoing development programmes in the district and the State and possible influence on current approaches and programmes.

6. Consider the recent constitutional changes giving the local government system strongly increased role with regard to management of natural resources and rural development and possible implications for the project and its approach.

4 Conclusions and Recommendations

The Team shall summarize its conclusions under the following headings:

- relevance of the Project
- effectiveness of design of the Project

- Major effects and impact
- Efficiency of Project activities
- Sustainability (ecological,. cultural, institutional financial).

The Team shall identify major opportunities and constraints in project design, role and approach with regard to;

- relevance for and impact on policy development and rural development efforts in the state/national context
- contribution to improved living conditions in the project field areas
- contribution to development of innovative methods

and suggest ways by which the project might

- increase its area impact
- enhance its strategicimpact

Based on these conclusions, the Team shall make recommendations with regard to :

- the usefulness of a continuation of the project and major changes deemed important to realise the objectives as stated under "Purpose of the Evaluation"

- other possible alternatives to pursue the basic objectives of the project and justifying external support.

Finally, the Team shall consider and present **lessons learnt** and experiences gained in connection with the Project that may be of importance also for other projects and programs.

5 Composition, Methods and Timetable

The Team should incorporate qualified expertise in the following subject matter areas:

- rural and development economics including knowledge of centrally sponsored schemes
- social organization, participatory approaches, local level management common property resource management
- institutional development and human resources development
- ecologically sound agricultural production, natural resources management, soil and water conservation

The team will be composed of Indian and expatriate experts. One of the selected members shall by Sida be appointed team leader with responsibility for preparations, coordination of the team and its work and for final editing and delivery of the final evaluation report.

Apart from documentation on the project (to be compiled by the Project), inteviews and extensive fieldvisits, the team is expected to introduce and extensivey base its work on self-evalution sessions with local communities, NGO:s and Govt. officials involved.

The evaluation is tentatively planned to be undertaken during March-April 1996, as follows:

- Preparation/briefing (team leader)	1 week
- Fieldwork Dungarpur	3 weeks
- Write up / Travels	1 week
- Final editing etc (team leader)	1 week

6 Reporting

The team shall prior to departure from Dungarpur present preliminary findings and conclusions in the form of a seminar for the Project.

A draft report shall be delivered Sida (for forwarding to GoR) not later than two weeks after the termination of the fieldperiod.

A final report in 5 copies shall be presented not later than two weeks after having received comments on the draft report from GoR and Sida.

See also specific reporting requisites given in the special Terms of Reference for the Team Leader of the Mission.

ANNEX B

PERSONS MET
(alphabetical order)

PAHAL

Mr. Surajmal Ahari
Mr. Ehsan Ahmad
Mr. J.S. Arora
Mrs. Madhu Arya
Mr. Nalini Nath Bhatt
Mr. Dharma
Miss Hakri Dindor
Mr. G.L. Gupta
Mr. Mumtaz Hussain
Mr. Anil Jain
Mr. Nathur Jain
Mr. Pravin Kumar Jain
Mr. Arjun Singh Jugtawat
Mrs. Sangeeta Kansra
Mr. Layak Ali Khan
Mr. Mahfouz Khan
Mrs. Jivi Kharadi
Smt. J Kharsali
Mr. Kanubhai
Mr. Kesharlal Keshav
Mr. Amanta Kumar
Sg. Prem Shankar Kumar
Mr. Dhanraj Labana
Mr. D R Meena
Mrs. Abha Mehta
Mr. Mumtaz
Mrs. Neeta Nag
Mr. Ramesh Nag
Mr. Kamal Nayan
Mr. D.D. Pandit
Miss Bhavna Pandya
Mr. Dilip Pandya
Mrs. Indira Pandya
Mr. Lalit Pandya
Mr. Keshavlal Pandya
Mr Nathulal Patel
Mrs. Maya Pathak
Mr. Punjilal Parmar
Mr. S.K. Purohit
Mrs. Ummaid Purohit
Mr. Sirajudin Qureshi
Mr. Z A Qureshi
Mr. Doluf Ram
Mrs. Vimla Sanadya
Dr. Himant Sharma
Mr. Balveer Singh
Mr. Hitendra Singh
Mr. Madan Singh
Mr. Karan Singh Rao
Mr. P G Solanki

Mrs. Shalini Rawal
Dr. Hemant Sharma
Mr. Manoj Sharma
Mr. Rajesh Sutradhar
Mrs. Manorma Trivedi
Mr. Tulsiram
Mrs. Jyoti Upadhayay
Mr. Kanu Upadhayay
Mr. Lakshman Vahanka Sh.
Mr. Devi Lal Vyas

Project consultants
Dr Hans Egneus
Mr. Ashis Mondal
Dr Goran Nurfeld
Dr Gordan Tamm

Others

Mr. R K Agrawal	Asst. Ag. Engr. WDSC, Simalwara
Mr. Govind Amaliya	MLA, Zilla Pramukh
Mr. Tarachand Bhagora	Member of Parliament
Mrs. Chitra Chopra	Secretary, TAD & Social Welfare
Mr. P.K. Goyal	Collector, Dungarpur
Mr. O.P. Gupta	Dy. Conservator of Forests
Dr. T.C. Jain	World Bank, New Delhi
Mr. S K Jani	Dy. Dir., WDSC
Mr. Paliwal	DRDA
Mr. D F Pandey	DCF, Udaipur South
Mr. Shiv Singh	A. Engr (HQ), WDSC
Ms. Disa Sjoblom	Researcher
Mr. P.K. Upadhyay	ACF, Udaipur South
Mr. S C Vaishnav	J. Engr. WDSC
Mr. M. Wilson	ODA, New Delhi

Sida, New Delhi

Mr. Jan-Olov Agrell	Head, DCS, Embassy of Sweden
Ms. Anita Ingevall	DCS
Mr. Ramesh Mukalla	DCS

Sida, Stockholm

Mr. Daniel Asplund	Head of Section
Mr. Leif Rosenhall	Programme Officer

BACKGROUND MATERIAL

A. Framework of the PAHAL Project

1. Original Plan of Action
2. Revised Action Plan
3. Copy of agreement between SIDA & Govt. of India
4. Copy of agreement between the project and RSS, PEDO Mada and BAIF
5. Memorandum of Association of PAHAL Project
6. Certificate of Registration of PAHAL Project
7. Copy of Vidhan of VLC (Memorandum of Association of VLC)
8. Copy of Registration certificate of VLC
9. Copy of Agreement between Project and VLC
10. Map of Dungarpur district with selected villages marked in it
11. List of VLCs

B. Publications by the project

1. PAHAL booklet
2. Flip book
3. VLM Guide book
4. Gatividhia booklet
5. Goat rearing booklet
6. Dharti ki Sargam I booklet
7. Dharti ki Sargam II booklet
8. Apni Vikas Ke Liye Apni Pahal booklet
9. PAHAL Samachar (One copy of all published so far)
10. Aap Ki Yojna Apke Liye leaflet
11. PAHAL Project activities leaflet (English)
12. Panchtaru leaflet & posters

E. Evaluation Reports (External & Internal)

1. An Evaluation study of PAHAL Project (DIWDP) Dungarpur by State Government Team (External)
2. Evaluation of ecological impact of physical activities in the project (External).
3. Study of surface water potential for Harvesting and utiliization through small scale schemes in the district (N.M. Sadguru Water Foundation - External).
4. Evaluation of 'PANCHTARU' Campaign (External).
5. Evaluation of 'Heifer' Scheme (External).
6. Proposed study on Traditional Technologies/Knowledge/Methods of tribals of Dungarpur district (Dr. Hans Egneus - External).
7. Proposed study on Socio-Economic conditions in the district (Prof. Goran Djurfelt - External).
8. Pre and post training test of the participants in TOT at Dahod (External).
9. Breeding Bucks Evaluation Report (Internal).
10. AI (BAIF) Centres Analysis report (Internal).
11. Pre and post training test of VLC members in the initial training's of VLCs (Internal).
12. Proposed study and socio-economic evaluation of soil conservation works being undertaken in the project (Internal).
13. Proposed study and evaluation of Decentralized Nurseries in the project (Internal).
14. Proposed study and evaluation of Cockerel Rearing Scheme in the PAHAL Project (Internal).
15. Proposed Study on Impact of Decentralization for empowerment of VLCs in the project (NGO Advisors - Internal)
16. Proposed Study on Impact of working of project in selected villages and effects of exiting thereof (NGO Advisors - Internal)
17. Proposed Study on Common Property Resources Management in selected villages of the PAHAL Project (NGO Advisors - Internal).

F. Audio - Visual Material

1. Audio cassette of PAHAL songs
2. Audio cassette of Pulse Polio songs
3. Audio cassette of Panchtaru campaign
4. List of Video cassettes (57 in number)
5. Albums of photographs (list attached)

C. Reports of Trainings/Seminars/Workshops

1 Training report of Master Trainers
2 Training report of VLMs
3 Report of First training given on PAHAL by Parmesh Shah in Early 1992.
4 Report of Mt. Abu workshop I
5 Report of Gandhi Nagar seminar
6 Report of Mt. Abu workshop II
7 Report of Sariska workshop
8 Report of Gender training at Kahari (Soma Parthasarthy & Dr. Madhu Sarin)
9 Report of training on communication at Kaya (Sh. Om Srivastava)
10 Report of workshop on participation, Anand Bhawan Udaipur (Sh. Om Srivastava)
11 PRA training report (Kahari)
12 Report of M & E training at KUM Dungarpur (Sh. Utpal Moitra)
13 Minutes of Shikarbadi Seminar
14 Training report on TOT at Kaya, Udaipur
15 Training report on Gender training at Astha, Udaipur
16 Training report of TOT at Dahod
17 Report of training of Heifer Beneficiaries
18 List of individual competence building programs
19 Progress of HIRD Activities - Block wise

D. Reviews and Monitoring Reports

1 Progress report for I joint review mission
2 Progress report for II joint review mission
3 Progress report for III joint review mission
4 Progress report for IV joint review mission
5 Agreed Minutes of I joint review mission
6 Agreed Minutes of II joint review mission
7 Agreed Minutes of III joint review mission
8 Agreed Minutes of IV joint review mission
9. Compliance reports for I, II, III & IV Review Mission
10. SIDA Monitoring team report for I review mission
11. SIDA Monitoring team report for II review Mission
12. Minutes of State Level Coordination Committee I, II, III
13. Project report of Panchtaru
14 Project report of Heifer Scheme
15. Yearwise abstract of Financial & Physical progress report upto July 96
16. Financial & Physical Progress Report upto July 96

LAND-BASED RESOURCES

Background considerations

Natural resource-use on an area basis

1. This Annex contains comments which complement the information in the main document. These notes consider the land-area-based resources and activities, deriving from the phrases in the Plans of Action I and II: "... cover over areas of land", "... rehabilitated potentially productive land", "... sustainable land use management", "... improved watershed and land use practices" etc. Other activities such as the Breeding Bucks and Heifer Programmes, and 'Panch-Taru' programme are considered elsewhere in the Evaluation, from socieconomic angles.

Geology and landscape.

2. The steep hilly landscape related to the Aravalli Hills is still young in geological terms, and geological erosion is occurring in any case. Where slope surfaces lie parallel to bedding planes of the phyllite rocks on steep slopes, mass movemenmts are to be seen. Not all the visible erosion is due to man's use of the land.

Rainfall and runoff.

3. Mean annual rainfall is around 760mm/year, but is very variable around this figure. Storm-rainfall intensities may be high, and erosive on bare soil, as assessed from the average number of rainy days - only 35 per year, concentrated within the monsoon period. About 30% of rainwater is discharged as runoff in the District, with no more that 3% variation from this figure in each of the five Blocks. This means that vegetation can use only about 70% of 760 = 520mm water available in the soil for transpiration and growth. Increasing the amount of rainwater that infiltrates will benefit both plant growth and groundwater as well as diminishing runoff.[1]

Soil conditions.

4. In upland sloping areas, soils which have been in agricultural use for many years are often of low productivity because of (a) poor structural conditions

[1] N M Sadguru Water Devt. Foundation, August 1996

which militate aginst infiltration and favour runoff; (b) low levels of organic matter (1% or less) which affects retenmtion and release of nutrients and water as well as structural stability; (c) low nutrient levels for crops, as shown by poor crop growth and some deficiency symptoms, notably of N and P. Lowland areas have been enriched to an extent by accumulation of upper-soil materials eroded from hillslopes which have been poorly-covered with vegetation in the rainy seasons, following deforestation and excessive grazing. Land use and management for preferred purposes has accelerated the relatively slow geoplogical erosion process - in some situations, as above stone soil-traps/checkdams, erosion is even encouraged on a limited scale to move nutrient-rich soil materials downslope into areas of accumulation.

Historical changes, and implications

5. It is said that much of the hilly land (at least) was covered with relatively dense deciduous forest (much of it teak) 80-90 years ago. Because the indigenous forest could not provide for the full range of needs of the increasing human population of the region, agricultural use of land - tillage agriculture and grazing - has progressively changed the dynamics and components of the ecosystems, substituting farming systems - which need continuous management to prevent reversion to forest - in the place of the native and relatively self-regulating ecosystems. Of particular concern, as populations continue to rise, is the fact that the duration of fallow periods (if any) in farming systems are inadequate to allow self-recuperation of perennial vegetation and of soils' physical, chemical and biological conditions, sufficiently to counterbalance damages to each of these features done during periods of tillage and grazing.

Land uses.

6. Broad indications of land use within the District are given below at para.16[2]. Unequivocal figures are difficult to derive, however, since more than one classifications is used in different documents.

Present condition of the land.

7. Whose is the perception of 'degradation', and against which criteria? A pragmatic definition may be 'loss of the

---

[2] N M Sadguru Water Development Foundation, 1996, from Census of India 1991. Distt. Census Handbook. Land use by Tehsil. p.21. Also District Data Base. As indicated.

land's potentials for production of appropriate types and quantities of plant products and water required by the local population'. The present condition of much of the upland areas - with sparse vegetation, compacted surfaces and high runoff - reflects results of people's attempts to satisfy their needs for produce not totally or always available in forest conditions. The substituted ecosystems are not so stable as formerly. 'Waste land' is that under private, community or Government title which has been wasted through poor management. Land which is vested in Government is seldom accorded respectful and adequate management by villagers, as they do not feel a sense of ownership. The challenge implicit among the various stated Objectives of the Project is to help people to improve their use and management of the land resource to continue producing what is required without loss of productive potentials. The Project is involved with systems of farming as parts of systems of livelihood. The ultimate decision-makers are the farm families themselves, and the nature, scope and appropriateness of their decisions therefore affect what happens on the land and how it reacts to altered conditions. Even though specific studies have not been made of either system within the Project villages, it is reasonable to surmise that the people are concerned to obtain (among others) more food; more regular water supplies,; more land for crop-growing; more fodder for animals; more fuel materials; more timber; more cash. Project perceptions of needs, and the ranking of them, may differ significantly from those of the villagers, as may the ways of achieving the several aims. Promoting Project views and priorities may coincide more by chance than by design with real requirements. However,offers of cash to undertake tree-planting and soil&water conservation work may have overridden other considerations in their minds. An indication is that 'forestry' or 'soil conservation' are seldom cited by villagers as high priorities in discussions with Project staff - but 'water' is often at the head of the list.

Components of ecologically sustainable land use patterns.

8. While social, economic and institutional factors affect sustainability also, ecological factors are key determinants. These relate to land use systems' stability and resilience in the face of severe climatic events (in particular), such as drought, infestation, excessive rainfall etc. Critical factors are (a) raising and maintenance of organic matter content and processes on and in the soils; (b) adequacy of plant nutrition in the face of losses by harvest-removal and by erosional transport; (c)maintenance of the soils' capacities for infiltration and percolation of rainwater; (d) ensuring maintenance of

perennial vegetation's capacity for self-regeneration after cutting.

Notes on statements in main document

Assumed needs

9. Assumptions were made in the PoAs about what people need and the problems to be tackled, though without initial benefit of insights which could have been gained from specific surveys to characterise and understand current local farming systems and livelihood systems. Experience from participatory working with villagers suggests that lasting success of Project assistance and efforts may depend on making even closer matches between needs and their priorities as felt by villagers, and the nature and sequence of assistance that the project offers.

Relative relevance

10. Concerning the maintenance of productivity of cultivated lands, the soil conserving attributes of 'field bunding' need to be enhanced by better crop- and soil-husbandry for yields to be maintained or to rise. If field levelling occurs by downslope erosional movement between bunds, the lower end of the slope may be enriched at the expense of the upper end of the slope, and there may be no net benefit, and even continuing slow attrition, if additional attention is not given to enhancing other components of productivity also.

Multiple effects

11. Different Project activities may serve more than one purpose, covering requirements for environmental stability as well as the satisfaction of people's needs. In fact, people may be adopting a Project-recommended practice (such as field bunding for soil conservation) not for the Project's reason (soil conservation) but for other reasons (manure/compost conservation; or for the cash income to be gained from constructing bunds, checkdams etc.). People may adopt practices to make personal gain more than they do to 'protect the environment', at least in the short term. It is a challenge to field staff to provide advice in such a way that both environmental as well as socio-economic requirements can be met, and over the longer term as well as in the more immediate future. A matrix could be constructed to show the type of interrelations, and the relevance of different actions judged from the viewpoint of various persons' perceptions and ranking of problems.

Standard design of bund

12. It has apparently been accepted throughout India that farmers will not permit outside agencies to construct bunds/banks across their fields on the strict contour - but only along the boundaries of plots, as 'field bunds'. Best control and capture of water and soil is achieved by a bund of even height along its full length when it aligned precisely along the contour (Type 1). It would then detain water etc. to the height of the waste-weir cill (here 0.3m). If the bund is constructed to even height but not strictly on the contour (Type 2), it is likely to break at low-spots when catching excess runoff. Whereas the first can be designed so that it has an expected life equal to the 10-year storm's return period, the second will fail more frequently even if the bank is of the same dimensions. Conversely, if it is desired to allow self-levelling of the field surface along non-contoured field bunds, it will be necessary to construct the appropriate bund so that it is of varying height along its length, following ground level at the base but keeping its top at a constant level altitude (Type 3). The standard size of field bund being advocated by the Project is thus usually of Type II, and will require more maintenance work to keep it effective than if its bottom and/or top were strictly on the contour. Nevertheless, this type is likely to be cared-for by farmers if they perceive worthwhile benefits accruing from them.

Micro-level planning

13. Given that village populations are likely to continue to rise, a major challenge to VLOs/VLCs (and their Project-staff advisers) is to decide how the (increased) future demands for areas for crops, fodder, tree plantations, water storages etc. are to be fitted onto the limited land area of the village within which they have rights of use. Area-wide planning for satisfying immediate requirements should not unwittingly jeopardise decisions about land-use allocations for the longer term.

Limiting factors

14. In the depleted situation of many fields in the village areas, shortage of soil moisture may not be the only factor limiting higher production per unit area. Releasing that constrint may then show up another, such as a nutriwent deficiency, or the genetic limit to yield of the particular crop variety being grown. Conversely, the greater yield potential of new crop varieties may be hidden if they are planted where deficiencies of water or nutrients are the primary limiting factors. Therefore the best results may

be expected when good plant materials are planted in places where neither water nor nutrients (nor pests and diseases) are likely to cause significant stresses in the crops.

Grass yields

15. Introduction or demonstration of fodder species appears to fall to Agriculture; advice on pasture management apparently is to be provided by Forestry; while species used to stabilise bunds etc. which also have fodder value are the responsibility of Soil & Water Conservation.

The is some verbal evidence that the yields of grass cut from well-protected and -managed PLP and CLP areas increases over time (presumably related to increased vigour and seeding). The local advantages of cut-and-carry of grass from these areas are (a) the fodder is transferred in time from post-monsoon period (at cutting) through 4-5 months to the next pre-monsoon period of fodder shortage; (b) the available fodder can be rationed to last over the when fed, which cannot be achieved under open grazing. Three examples:

* Karmela Village (Forestry Dept. land)
  1st year (late 1995) 1 ton/ha.
  2nd year (1996) estd. 2-3tons/ha.
* Balwara Village
  2nd year (late 1995) 1.6 tons/ha.
* Wajela Village
  7th year (late 1995) "Sufficient from 100 ha. for 600 Animal Units for 3 months" (rate/day not stated - but another farmer said "7kg/day per animal" not ideal, but better than starvation. This translates to ca. 5 tons/ha.

Project numbers

16a

CUMULATIVE FIGURES FOR 'FORESTRY', 'SOIL&WATER CONSERVATION', 'AGRICULTURE' (sources as shown in Line 3)								
Selection:	Random		Micro-watershed basis					
Year:	1993/94		1994/95		1995/96		Totals	
Source:	GoR Evaluation Report, to Aug.1995				P D's Progress Report, to Aug.1996			
Activity	has.	families	has.	fams.	has.	fams.	has.	fams.
Forestry								
CLP	112.34		214.5		360.3		896.64	
PLP	174.74	480	552	1131	782.5	1606	2520.24	
SWC	1024	1415	1569	1669	6569	5890	15441	13842
Agriculture								
Crop dems.	44	220	59.2	n.d.	117.24	n.d.	392.18	1945
Fodder "	10	100	13.4	n.d.	23	n.d.	23	184
Other "	n.d.	n.d.	n.d.	n.d.	7.2	n.d.	7.2	
Manure pits	n.d.	n.d.		7738 (no.)				10280 (no.)
Figures from different sources (GoR, Progress Reports) may not be fully compatible if not reported April-March								

96.6:cumacts.dun:26.9.96

16.b

PAHAL PROJECT AREAS AND EXPENDITURES ON SOIL & WATER CONSERVATION AND COMMON & PRIVATE LAND PLANTINGS AS AT 21/9/96 (From sheets provided on last day by Block officers)						
Block	No. villages	No. hahlds covered	Cumulative area s.w.c. has.	Cumulative area P.L.P. has.	Cumulative area C.L.P. has.	Cumulative expend. - lakhs Rs.
Simalwara	13	4221	2408.0	170.0	89.0	106.94
Sagwara	14	1345	999.5	292.5	147.6	63.88
Aspur	25	4911	4053.7	390.25	50.1	173.46
Bichhiwara	40	6677	9226.7	1023.4	320.9	341.44
Dungarpur	57	?	4343.9	98.8	334.3	280.21
Totals			21031.8	1974.9	941.9	965.93

96.6:swcpcp.dun:26.9.96(C28a.1)

16.c

LAND CLASSIFICATIONS FOR PROJECT VILLAGES, TOTALLED BY BLOCK (from Village Data Base)					
Land use V Block >	Aspur	Bichhi-wara	Dungar-pur	Sagwara	Simalwara
1. Irrigated	732	705	533	108	281
2. Canal	213	91	277	310	299
3. Tankbed	133	369	70	17	3
4. Unirrigated	2879	6935	3089	1526	3191
5. Wasteland	1636	2613	1660	400	1440
6. Pasture	1832	1004	1340	821	699
7. Forest	1362	715	2928	222	339
8. Pvt. forest	123	2	1	19	0
9. Abadi / residential etc.	115	29	46	32	79
10. Cremation	1	31	15	0	0
11. Other	1486	3422	3068	1177	1067

The amount available for, or used for cultivation etc. is not clear because of the indefinite nature of Class 11 'Other', a significant portion of the total for each village.

16.d

AREAS OF DIFFERENT CLASSES OF LAND IN EACH COMPLETE BLOCK (from Sadguru/Census)					
Panchayat samiti/Block	Geographical area has.	Cultivable arable land (irrig.+non-irrig.+fallow) %, has.	'Forest' %, has.	Culturable waste %, has.	Not available for cultivation %, has
Dungarpur	57512	40.58 23338	8.53 4906	20.79 11957	30.09 17305
Aspur	69171	38.88 26894	10.29 7118	25.96 17957	24.86 17196
Sagwara	61172	46.20 28261	5.17 3163	22.09 13513	26.53 16229
Simalwara	91362	49.76 45462	17.25 15760	15.10 13796	17.89 16345
Bichhiwara	74590	44.49 33185	8.31 6198	15.04 11218	32.14 23973
Totals	353807	44.42 157140	10.50 37145	19.35 68441	25.73 91048

96.6:blockhaa.dun:27.9.96[N18,18a]

Effectiveness of field-boundary bunds

16. If a farmer has constructed bunds on all four boundaries of his plot, only 2 (50%) are likely to be anywhere near the contour and relatively effective in trapping water and soil. Therefore the other two (50%) would be far off the contour and ineffective. If an upper and lower boundary bund coincide with the true contour, and the other two boundaries are not bunded, then 100% of the bunds would be effective. If four bunds are constructed, one on each boundary of the plot, but all run on diagonals across the slope at significant angles to the contours, then none (0%) would be effective. Thus: where bunds are located with respect to slope, and whether 1,2,3 or 4 sides of the plot are bunded, together define what proportion of bunds are effective/ineffective in catching water and soil.

Compost and fertiliser

17. A farmer at Sharam Village informed tha he applied compost at the rate of one small tractor's-trailer load per bighar (40x40m), and also 2 x 25kg urea and 20kg.DAP. He said that if he did not use fertiliser at all, he would double the rate of compost application to compensate. Comment: the compost even at the double rate is unlikely to supply equivalent amounts of nutrients (notably N - ca. 23kgN/bighar) but would probably have its effects chiefly through improving soil structure and soil moisture conditions. Farmers inform that they apply compost to their best plots, where it is likely to produce best results in terms of yield. (This begs the question about how they would go about rehabilitating degraded land which would benefit from such treatment but apparently be unlikely to get it.)

Farmers' assessments of different crop varieties

18. Farmers mix crop species and crop varieties both to make their own comparisons in their trials and, at field scale, to spread risks of failure. If new crop varieties are to be offered to farmers for their assessment and comparisons, they will use a range of criteria to judge the merits of each. It is unlikely that one variety alone would satisfy all the criteria. Therefore a range of varieties may be offered so that farmers can make multiple comparsions and trade-offs. A prior knowledge of their criteria before the possible range is selected for assessment would increase chances of finding varieties which the farmers favour. An example:

"CHARACTERISTICS OF A MAIZE VARIETY PREFERRED BY FARMERS
(by topical PRA, Dungarpur)

* Short maturity period (can compromise 5-10 days later maturity if other attributes up to the mark);
* Less water requirement;
* Suitable for soil type, slope and environment of Dungarpur;
* Yield at least 4-5 q/bighar [x 6.25 x 100 = kg/ha.)
* Yellow grain colour (could compromise on white);
* Not be hybrid, so don't have to rely on market for seed;
* Straw should be more [cattle fodder];
* It should be pest-resistant;
* Low requirement of chemical fertiliser."

(Source: 'Report of a Consultancy'[on crops]. Ashis Mondal. June 1996

Possible negative effects of field bunds

19. (a) On any alignment, the recommended minimum width of standard bund + berm + minimum borrow-pit = 1.6 + 1 + 2 = 4.6m x 330m/ha = 1518 sq.m/ha = 15.18% of the area if constructed as per recommendation. (Even if the 1-m. berm is dispensed with, the figure is 11.88%).

(b) If any borrow-pit is aligned across/down slope at gradient more than about 2%, and is not cross-tied at intervals, erosion may occur down the length, which may significantly further reduce yields in the borrow-pit area if not remdied.

(c) If rice is not grown in wet areas produced by bunding, the maize of gram may suffer from wasterlogging. If the waste-weir cill is 0.3m high, the water surface above ground will extend as below (and further subsurface saturation will also be present):

Slope		Extent of water surface up-slope - max D= 0.3m
Degrees °	Percent %	metres
0	0	Infinite
1	1.75	17.2
2	3.49	8.6
3	5.24	5.7

20. There is worldwide debate on this matter. Interacting variables in the system are climate and weather conditions, tree physiology and responses to stress, management of the soil surface as affecting infiltration:runoff, and stability of level of watertable relative to rate of abstraction (related to size of water-body). Trees with roots reaching the water-table will not suffer the same duration and severity of physiological water stress as those trees whose roots to not reach the water-table. Therefore they will grow for longer, and use more wwater in transpiration and growth. If the watyer-table is to be protected, then trees with capacity for deep rooting should be planted on slopes high above the level of the water-table, with shallower-rooted species planted on the lower slopes. If the purpose is to produce woody biomass quickly, then trees may be planted where they can tap into the water-table.

SOCIO-ECONOMIC FINDINGS

I. Classification of Village Institutions

During the day long workshops that were held at four of the Block offices, the project teams were asked to carry out a classification of the village institutions they work with. The results of these are detailed here.

Dungarpur Block

The existing VLOs were classified into three categories (A, B and C) by the Block level team. Category A referred to the 'strong' VLOs, category B to the medium and C to the weak VLOs.

A	B	C
1. Ghodi Amli	1. Hirata I	1. Khajuria
2. Odwadia	2. Hirata II	2. Bikasor
3. Damdi/Chitrati	3. Barrfeda	3. Valota
4. Mana Talai	4. Devki	4. Nava Tapra
5. Dolwar Upli	5. Igra/Gang Nala	5. Kalaria
6. Dhawdi	6. Dra Phala	
7. Ghodcha	7. Raghunathpura	
8. Ghatau	8. Masaniya	
9. Badi Ghati	9. Parda Chobisa	
10. Talaiya	10. Santu	
11. Lolakpur	11. Modra	
12. Toraniya	12. Kaklai	
13. Dev Somnath (B)	13. Dolwar Nichli	
14. Raini Sawda	14. Viri	
	15. Sadli	
	16. Navaganv Upla	
	17. Navaganv Nichla	
	18. Limdi Kadwala	
	19. Rajgadi	
	20. Katari (A)	
	21. Katari (B)	
	22. Beraniya	

Bichhiwada Block

A	B+	B-	C
1. Shishod	1. Gamdi Pal	1. Verat Phala	1. Gamdi Khas
2. Sanchiya	2. Nandri	2. Patdi	2. Shinshwa
3. Aghania Phala	3. Barothi	3. Pat Talai	3. Ghadmala
4. Bortalav	4. Bahena	4. Panch Mahudi	4. Dhamlat Phala
5. Kapadvel	5. Beeda Phala	5. Talab Phala	5. Bharatpur
6. Ved	6. Manipur	6. Gam Phala	6. Narla
7. Jalu Kuan	7. Kanpur		
8. Lakshman Pura	8. Vatda		
9. Mahipal Pura			
10. Kodiya Gun			
11. Virpur			
12. Sharam			

Nine new villages were not categorised by the team, as they felt it was too early to judge their performance.

Criteria for VLO categorisation included:

1. Participation of VLC members in meetings
2. Involvement of VLC members in village development
3. Participation of women
4. Involvement in preparing village plans
5. Groupism
6. Contribution in developing village groups
7. Implementation of physical activities
8. Management of resources developed
9. Relations between VLC and VLM
10. Management of village fund
11. Relations between VLC and PAHAL

Aspur Block

The three categories selected by the team in Aspur were described as

A - Average
B - Need improvement
C - Require significant changes

A	B	C
1. Sagot	1. Khedasamor	1. Bhagda
2. Bhimroda	2. Khermanav	2. Oda
3. Pardathur	3. Lembata	
4. Palthur	4. Nava Tapra	
5. Kakri	5. Ramgadh	
6. Khanan	6. Kaudi	
7. Modra	7. Masana	
8. Myala	8. Devla	
9. Tekla	9. Gamirpura	
10. Kareliya		

A similar exercise was carried out with members of ten VLCs at Ashaji Pura Temple in Aspur. Their classification was as follows:

I	II	III	V
1. Sagot	1. Bhimroda	1. Myala	1. Oda
2. Khanan	2. Tekla	2. Lembata	
3. Navatapra	3. Modra	3. Bhagda	

The criteria used by the VLC members included:

I - Strong VLO; able to carry out more work, and on time; timely payments; organised more awareness camps in the village; aware and interested VLC members
II - VLO less effective than category I
III - VLO less effective than category II
IV - VLO in bad shape

Interestingly, the classification by the PAHAL team and the VLC members matched only for five VLOs.

Simalwada Block

A	B	C
1. Ambada	1. Badgama	1. Bansia
2. Gundlara	2. Mala Kholda	2. Chitri
3. Bavri	3. Nagaria Panchal	
4. Khar	4. Rojela	
5. Kodariya	5. Chadoli	
6. Bodamli		

Criteria used for classification include:

1. People's participation
2. Physical works carried out
3. VLC and VLO accountability
4. Management at the village level

The following table gives the distribution of villages according to the classification carried out by the teams themselves (note - since the analysis was carried out independently by each Block level team, the three categories may well indicate different levels of achievement in each case. Due to lack of time it was not possible to ask the teams to consolidate their analysis. The following table, therefore, should be read in light of this limitation)

Block	Number of villages in each category			Total
	A	B	C	
Dungarpur	14	22	5	41
Bichhiwada	12	14	6	32
Aspur	10	9	2	21
Simalwada	6	5	2	13
Total	42	50	15	107

II. Livelihood Strategies

Discussions with different groups of people revealed that agriculture and migratory wage labour are their main sources of livelihood, specially for the poorer categories. The following analysis by a group of men in village Beraniya in

Dungarpur Block gives details of livelihood sources for each of the five wealth categories they identified in the village (criteria for household classification according to their relative wealth and well-being is detailed in section VI of this Annex).

Scoring of different sources of livelihood for each wealth/well-being category *
Village Beraniya, Dungarpur Block

Sources of livelihood	Wealth/well-being category				
	I	II	III	IV	V
Goat rearing	3	2	5	6	1
Permanent Job	75	50			
Sheep rearing	2	2	5	4	2
Wage labour (migratory)				25	40
Spinning yarn					10
Weaving durries					10
Selling fruit					5
Agriculture	20	46	90	65	32

* For each wealth/well-being category the scores are given out of 100.

As can be seen from the above analysis, agriculture plays a significant role in people's livelihoods, specially for those from the three middle categories. The better-off households tend to depend more on salaried jobs and have a fixed income. The poorest on the other hand depend more on migratory wage employment. This village has a durrie weaving unit which is supported by the NGO - Rajasthan Sewa Sangh. This provides wage employment to some of the poor households.

This group in Beraniya mentioned that if irrigation facilities are made available in the village, the relative contribution of agriculture would be significantly higher in people's livelihoods.

III. Ranking of Project Activities

A ranking of different activities supported by PAHAL was analysed by several groups of people and VLC members in different Blocks. This analysis indicated the importance people placed on different PAHAL supported activities and how they differentiated amongst them. Some of these are presented here.

Activity	Villages							
	Berani ya*	Dev Somna th (B) *	Nava Tapra *	Viri *	Lolokp ur *	11 VLCs, Aspur Block	Shara m ** ++	Shara m ** = =
SWC	2	1	3	1	1	2	2	2
PLP	5	2	1	1	2	3	3	6
Compost pits	3		2	3	2	8	7	3
Cattle sheds	9				3	9	10	7
Agri demo	10	5	2	3	5	5	5	10
Bucks	8	5		2	4	4	6	7
Nursery	6	7				7	3	5
Grass seeds	4				6			9
PVC pipes	2			2	2		9	8
Panchtaru	9	4	1		2	11	8	10
Cockerels	8	3	3		7	12		
Castration	7	7	1	2	4	6	6	
Vegetable seeds		6						
CLP		3				10	3	
AI		8						
Pond							4	1

Spray pump							11	8
Savings			2					11
Check dams								4
Heifer			2		2			
Well deepening			4		1			
Awareness camps/ training	1	1	1	1	1	1	1	
Meetings		1	1		1		1	7

* villages in Dungarpur Block ** villages in Bichhiwada Block
++ Analysed by a group of men = = Analysed by a group of women (the women's analysis is derived from their pair-wise ranking analysis. All the men's groups did a direct ranking analysis)

Numbers in the table indicate rank, i.e. 1=best/most important, 2=next most important, and so on.

Note- although the analysis carried out by different groups has been presented together in the above table, these were carried out separately by the different groups. Therefore, though the relative ranking gives a picture of people's preferences, these ranks are based on criteria that need not be the same for all the groups. The ranks and the criteria were decided by the different groups themselves.

In general, the above table shows that training and awareness camps are given a high preference by all the groups. On seeing this analysis some of the groups were asked whether this reflected that the PAHAL project could focus only on awareness building and training and be very popular with the people. The immediate response was "NO". People went at great lengths to explain that the training programmes have helped them a lot, but unless there are physical activities to compliment the trainings, there would be little benefit for them. Examples were given from the first few years of PAHAL, when "there was too much talk and little action .... people were not interested in just talking .... we have to think about filling our stomachs".

People in general find SWC and PLP activities as the most important and the most beneficial.

IV. Needs and Priorities of the People

A general discussion on the needs of the people was also carried out with different groups of village people and VLC members in order to examine how the PAHAL activities matched these. Results from three such discussions is as follows:

Ranking of village priorities/problems

Village Beraniya, Dungarpur Block (men's group)
(Rank 1 indicates most needed)

Problem/needs	Rank
Lack of awareness	1
Unemployment	1
Soil erosion	1
Health	2
Community well	2
Pond/tank	2
Canal	2
Drinking water	3

Scoring of village needs and priorities :
Village Dev Somnath (B), Dungarpur Block (men's group)
(Fixed score out of 100, where 100=most needed)

Village needs	Score
Well deepening	100
Water channels	100
Annicut	100
Electricity	100
PAHAL for another 5 years	99
Health centre	99
Field bunding	98
PVC pipes	97
Water tank (*talavdi*)	96
Hand pumps for drinking water	95
Improved agricultural implements	93
Community hall	92
Vegetable seeds	85
Tree planting	80
Lift irrigation from wells	80
New wells	75

Ranking of village needs and priorities :
Village Sharam, Bichhiwada Block, (women's group)

Village needs	Rank
Well deepening	1
Pucca houses	2
Water trough for cattle	3
Electricity	4
Field bunds	5
Annicut	6
Land levelling	7
Bathrooms/toilets	8
Pond	9
Smokeless *chullah*	10

In general, SWC figured high in people's list of needs and priorities. However, irrigation facilities of different kinds, including water harvesting structures, were accorded higher priority by the people. The list of priorities also included needs like electricity, drinking water and healthcare facilities, which PAHAL does not provide. In addition, the women's group in Sharam also included water trough for cattle, *pucca* houses, toilets and smokeless stoves in their list, which did not figure in any men's analysis.

V. Economic Impact

While discussing the impact of different PAHAL activities, most of the village people talked about the benefits realised from SWC activities, since these have been taken up on a large scale during the last one year. They talked about direct and indirect benefits. Details of such analysis by people in three villages are presented here.

Village Beraniya, Dungarpur Block
(analysis by a mixed group of women and men)

Direct benefits from SWC work :

- -expected 25% increase in crop production
- -crop more secure
- -expected increase in food availability
- -increase in water level in the wells
- -soil erosion reduced
- -wage employment in the village
- -drop in seasonal migration to Gujarat (about 150 people were able to stay back in the village; about 250 people used to migrate every year earlier)

Indirect benefits (mainly from wage employment in the village):

-it was possible to purchase food during the drought
-5 households were able to release their mortgaged land:
Harji Ratna - 1 Bhiga for Rs. 2,000
Vala Ratna - 0.5 Bhiga for Rs. 700
Nana Mengha - 0.5 Bhiga for Rs. 500
Dhana Ratna - 1 Bhiga for Rs. 1,500
Nathu Kevla - 0.5 Bhiga for Rs. 1,000
(another 3 households still have some land mortgaged)

-about 150 households were able to pay back loans they had taken earlier, either in full or in part
-several households were able to buy fodder and were able to save their cattle during the drought. About 500 cattle (approximately 25% of the total) perished during the drought. If it had not been possible to purchase fodder an estimated 75% of the village cattle stock would have been lost.
-50 new bullocks were purchased
-some households were able to invest in agricultural implements, and pumps
-some households were able to repair their houses
-some were able to buy improved varieties of seeds
-help in some social activities like sending children to school and getting children married
-every labourer was asked to contribute Rs. 10 to the village fund. A total of Rs. 4000 was saved this way.

Details of how some of the households had used their wage were also provided by them:

Sr. No.	Amount earned (Rs.)	Use
1	3000	Bullock, food and released mortgaged land
2	800	House repair and food
3	2500	Fodder for 1000, purchased cow for 1000, 500 for food
4	2500	Fodder for 1500, 500 for food, 500 for sister's wedding
5	5000	Hired tractor to level the field
6	4000	Fodder for 2000 and food for 2000
7	3000	Bullock and food

8	2500	Bullock and food
9	2500	Fodder and food
10	3000	Fodder and food
11	3000	Bullock, fodder and food
12	1000	Fodder
13	3000	Bullock, cattle feed and food
14	3000	Bullock and food
15	5000	Fodder, bullock and children's education

Village Dev Somnath (B), Dungarpur Block
(analysis by a mixed group of women and men)

Direct benefits:

-25 Bhiga of unused land brought under cultivation
-increased water retention in the fields
-increased retention of fertilizers and mannure in the fields
-expected increase in crop productivity
-decrease in erosion
-on 50 Bhigas of land changed from maize to paddy cultivation
-increase in fodder production
-wage employment in the village

Indirect benefits (from wage employment in the village):

-able to buy fodder that sustained the cattle during the drought period
-decrease in migration from 500 people migrating for eight months to 100 people migrating for three months
-by staying at home, people were able to look after their families

Village Sharam, Bichhiwada Block
(separate discussions with groups of men and women)

The main benefits discussed by the people included changes in land-use, increase in crop productivity and decrease in migration.

Changes in land-use:

-New land created for paddy cultivation - 115 Bhiga (belongs to the poorest two wealth/ well-being category households)
-Increased moisture retention on 400 Bhiga of land (spread evenly across all the five wealth/ well-being category households)
-Change in cropping pattern from one crop to two crops on 150 Bhiga of land (belongs to the better-off category households)

It was mentioned that it is possible to grow two crops on the new land created for cultivation after two years of it being treated, and after five years "*is par fasal khoob mast hogi*" (there will be excellent crop).

Changes in seasonal migration patterns:

Since PAHAL activities started in 1993 in this village, the group was able to analyse the changes in migration over the last five years.

Year	Percentage of village adults migrating	Comments
1992	50% for 8 months	Pre-project year
1993	50% for 8 months	Work started on 24th December. People did not join in till the first payments were made. **
1994	15% for 45 days	For cotton seed processing in winter
1995	15% for 45 days	-do-
1996	15% for 45 days	-do-

** It was mentioned that people did not know about PAHAL then and there was disbelief that there would be any payments. One woman mentioned, "We wondered whether there could exist such an organisation which pays such high wages for people working on their own fields and for improving their crops!"

It was felt that the drop in migration rates would be easier to sustain in the long run if irrigation facilities were improved in the village.

Most of the impact indicators discussed by the village people were the same across villages and similar descriptions of benefits were described by different groups. In addition, a group of women from Nava Tapra, Dungarpur Block, mentioned that before the project started, about 10-12 women from the village used to take headloads of fuelwood to sell in Dungarpur. It used to take hours of walking on the undulating terrain, under the weight of about 10 kg of wood, to reach Dungarpur. For this effort they used to get about Rs. 4-5, sufficient to buy some grains for the evening meal. Since there are better opportunities now available in the village, none of the women now depend on selling fuelwood.

VI. Coverage of village households under different PAHAL activities

Following are the results of the analysis carried out by groups of village people in Beraniya (Dungarpur) and Sharam (Bichhiwada) regarding the coverage of households under different PAHAL supported activities and the relative wealth category these households belong to.

Village	Total no. of hhs in the village	No. of hhs covered under PAHAL Supported Activities											
		SWC	PLP	Comp-ost pits	Castration (goat)	Bucks	Cockerels	PVC Pipes	Agri demo	Grass seeds	Pond	Cattle sheds	Pump
Dungarpur													
Beraniya	130	130	41	130		115(2)	15	25(3)	30	80		16	
WR category		I-V	V	I-V		V	V	I, III	I-V	I-V		V	
Bichhiwada													
Sharam	225	225	120	225	17	150		5	32		70+30*	10	5
WR category		I-IV	I-IV	I-IV	I-IV	I-IV		III	II-III		I-IV	IV	I, II

* 70 households got employment for constructing the pond and 30 households are expected to benefit from the irrigation water made available.

* 70 households got employment for constructing the pond and 30 households are expected to benefit from the irrigation water made available.

hhs - households
WR category - Wealth ranking category (I = better-off, V = worst-off)

In Beraniya the people categorised the households into 5 wealth categories and in Sharam they had 4 categories, as can be seen from the following details:

Beraniya

Wealth ranking category	Number of households	Criteria/ indicators
I	2	Well-off; permanent jobs, e.g. teachers, in the area
II	10	Well-off, permanent jobs in Ahmedabad
III	30	Mainly agriculturists, some wage employment
IV	20	Less agriculture, depend on wage labour
V	68	Very little agriculture, mainly wage labourers, have food stocks for only about two months every year, "get food for four days and then have to hungry for the next two days"
Total	130	

Sharam

Wealth ranking category	Number of households	Criteria/ indicators
I	13	Have enough food throughout the year and also some surpluses; good agriculture; have flat and fertile lands; don't depend on wage labour; own 13 wells, including 3 good wells which have water throughout the year.
II	40	Are able to meet their food requirements; own 40 wells, which have water for about six months.
III	60	Food stocks last for about six months; own 30 wells, which have water for about six months.
IV	112	Poor; depend on wage labour; own no wells.
Total	225	

Similar analysis was also carried out in villages Lolakpur, Viri and Nava Tapra in Dungarpur Block. These results are given below. (I = better-off, II = medium, and III = worst-off household categories)

Activity	Number of households, by wealth category, covered by PAHAL activities											
	Nava Tapra				Viri				Lolakpur			
	I	II	III	Total	I	II	III	Total	I	II	III	Total
Total no. of hhs	7	25	28	60	1	10	149	160	10	40	150	200
SWC	5	10	12	27	0	10	80	90	0	30	60	90
PLP	2	1	2	5	0	2	10	12	0	6	8	14
Compost pits	7	5	2	14	1	10	149	160	0	35	50	85
Heifer	2	1	1	4					0	4	0	4
Well deepening	1	2	1	4					0	4	0	4
Agri demo	3	2	1	6	0	0	88	88	0	5	10	15
Bucks**					0	0	(200)	(200)	0	0	1	1
Cockerel	2	2	3	7					0	0	10	10
Castration	2	0	0	2	0	0	7	7	0	6	6	12
PVC pipe					0	0	2	2	0	2	0	2
Cattle sheds *									0	4	0	4
Grass demo									0	30	60	90
Panchtanu	7	25	28	60	1	10	149	160	0	40	104	144

* Cattle sheds in Lolokpur have been provided for the heifers

** Two bucks were provided in Lolakpur, of which one died. Number of households benefiting from the buck was not available. Two bucks have also been provided in Viri, which have serviced an estimated 200 goats.

Similar analysis, without the household classification by wealth, was also carried out by VLC members from 10 villages in Aspur. One thing that emerges clearly from these is that activities like SWC have found a broad base in the villages. Wherever the SWC work has been phased out, it is the better-off households who are to be covered later.

VII. Changes in the last one year

Since there has been significant scaling-up of PAHAL activities in the villages in the last one year, most discussions with the village people as well as the Block-level teams tended to talk about two scenarios, 'before and after' the changes were introduced.

At the Aspur Block office, the project team listed the following changes witnessed during the last one year:

- -scaling-up of activities within a village
- -increase in number of project villages
- -increase in co-operation from the village people
- -increase in people's trust for PAHAL
- -financial and administrative decentralisation
- -simplification of procedures
- -greater involvement of women in the project activities
- -availability of appropriate training
- -presence of active VLCs
- -new activities introduced under the project

The same group listed the following points that according to them explained the reasons why it was possible to scale-up and intensify activities at the village level:

- -increase in staff
- -increase in number of villages (from 10 to 21)
- -increased involvement of village people as an impact of HIRD activities
- -impact of introducing integrated training programmes
- -change from subject matter specialists to designating all members of staff as OICs, with individual responsibilities for allotted villages
- -handing over responsibilities to the VLCs; empowerment of VLCs
- -simplification of procedures
- -trust in PAHAL
- -quick and timely payments
- -transparency of PAHAL
- -no fixed time for executing work (unlike the project staff, the VLC members do not restrict their work to a 9-5 schedule)
- -a variety of different activities offered under the project
- -more wages, per day, available as compared to work provided by other agencies
- -decrease in migration, and hence more village people were able to work in their villages during the dry period

Similarly the PAHAL team at the Dungarpur Block office came up with the following main changes in the PAHAL approach in the last one year:

-focus on VLCs
-signing a contract agreement between the project and the VLC
-delegation and delineation of implementation and supervision responsibilities for three villages per OIC (earlier this was the responsibility of the SMSs)
-discussion and selection of activities from the menu of activities made available by the project during the OJT in every village
-no MLPs prepared anymore
-some flexibility with the VLC in deciding the activities and their phasing

The differences in PAHAL approach 'before and after' the changes introduced were described as follows:

Before	After
*SMSs responsible for implementation and supervision at the village level were not able to provide complete information to the people	*OICs have more all-round information and are able to be more transparent in their work. OICs are now in charge of villages and not some specific activities
*practiced a service approach, were not able to provide support to village people to take up implementation responsibilities, execution of activities controlled by the project staff	*now support provided by the OIC and execution controlled by the VLC
*less focus on gender/women	*now it is the responsibility of the VLCs to increase the participation of women and there is a healthy competition among the VLC on who can achieve more in this regard
*lack of technical knowledge at the village level	*increased technical skills with the VLCs
**Thopi gayee sahbhagita* (externally induced/forced participation). Not clear 'why participation' - participation was understood as *paisa jama karo aur kaam karo* (get the money and get the work done)	*now *swaichhik sahbhagita* (voluntary participation).

*lack of follow-up of activities and lack of interest and ownership	*longer-term perspective and increased interest of the village people
*HIRD activities seen as separate	*HIRD activities integrated with other activities
*women not involved in technical work	*women staff members and those from the village are now made responsible for technical works
*proposals and payments made in the name of the male head of household	*proposals and payments in the women's name
*trainings not systematic	*trainings linked with physical activities

While most of the changes were described as 'positive', some staff members mentioned separately that the change from the SMS approach to OIC has also placed pressures on them. It has meant an increase in workload, as responsibilities are clearly defined. Staff, specially from the NGOs and those earlier responsible for HIRD activities have found their new responsibilities difficult to cope with. Though all the staff members have been given training in the necessary technical skills required for supervising the activities, some of them have often felt uncomfortable answering questions at the village level. Some women staff members also felt that they were finding their new responsibilities more demanding and were left with little time for their families, which, they felt, may not be a sustainable arrangement for them.

Most of the village people and VLC members described the changes in the PAHAL approach the same way as the Block level teams. High emphasis was placed on the positive impact of:

-higher daily wage rates under PAHAL (and the resultant drop in migration)
-timely payments
-registration of village samities
-delegation of financial powers to the VLCs
-transfer of technical skills
-transparency
-absence of corruption
-SWC structures increasing the insitu moisture retention on their fields and hence an expected increase in crop productivity

When asked what is the single most important factor that led the villagers to take to PAHAL, most of the village groups mentioned higher wage rates and timely payments. Comparisons were made to the earlier way of working of PAHAL when, it was explained, it used to take months to approve any proposal and there were delays of months in making payments. Often

comparisons were also drawn with the working of government agencies, which they felt were not transparent and full of corruption. As one man in village Beraniya explained "*Sarkari ya Panchayat ke kaam mein aur PAHAL ke kaam mein raat aur din ka antar hai*" (the difference between government/Panchayat work and that of PAHAL is the same as that between night and day). One middle aged woman in Barothi exclaimed "*Sarkari kaam ma paisa ocho male anae khub der thi male. Hun to PAHAL maate kaam pachees rupiya ma karwa tayaar chun*" (Government works pay less and very late. I am willing to work for PAHAL for a wage of Rs. 25 per day). Although statements like the latter speak highly of PAHAL, it also raised doubts about how the people view the activities supported by PAHAL. This statement does imply that PAHAL is viewed as an agency that provides employment opportunities and that the work being done in the villages is 'for PAHAL' rather than themselves. This also raises questions about how the people view the ownership of the work being carried out.

VLC members also mentioned that by handing the implementation responsibilities to them, it has been possible to speed up the process considerably. Since they are available at the village, people can approach them at any time and work gets done at all times of the day and night. One VLC member in Beraniya mentioned that sometimes he used to be woken up as early as 4 am, to give bunding line-outs in people's fields, and when he would hesitate to get up in the dark, he would be told, "This torch that the project has provided you is not for your personal use. What is it for? If you did not have the courage, why did you take this responsibility? Get up or we will get you replaced!"

INSTITUTIONAL COMPARISONS

The following gives an overview of how PAHAL has related to the other line departments working on land based activities and rural development in the district.

Sl.	Other Departments	Complementary activities	Similar activities	Conflicting/ Different activities
1.	**Forest Department**	1.PAHAL has been Working on degraded private lands which constitute 30% of the land mass in the district.The FD has no schemes/funds to tackle this problem. 2.PAHAL's efficient delivery mechanism has helped in the distribution of saplings from Forest Dept. 4.PAHAL's operational flexibility allows it to take new initiatives which is not possible for the FD. One such one has been it's support to the FD to establish a Progeny Orchird of 'Aonla' a species in high demand in the area but not available with the department.	1.Both PAHAL and FD have increasingly been working through peoples' organisations / user groups. However the FD works mostly on the department lands while PAHAL has the flexibility to work on all other private and common lands. 2.Both lay emphasis CLPs.	1.FD charges a nominal price for their saplings while PAHAL has distributed them free of cost in the Panch taru programme. The dept. feels that this is contradictary to their philosophy. 2.PAHAL has initiated decentralised Kisan nurseries to meet the requirement of their saplings the dept. feels that this is a duplication of efforts. 3.The cost norms for comparible activiites are very different.Those in FD being higher due to the practice of constructing a stone wall for a fence. 4. CLP done by the Forest Department on Panchayat lands involve an elaborate procedure of leasing the land to the department. In the case of PAHAL the ownership of teh plantation remains withthe village community. In the case of the FD targets are set based on the availability of funds while in the case of PAHAL the micro level planning generates the demand for setting targets.

				- The user groups in the case of the FD are organised around the forest land, while in the case of PAHAL are village based.The two are not normally coterminus.
2.	SWC	practically no linkage	1.Both work through user groups. 2.Both work on the principle of enlisting peoples participation and contribution. .	Some of PAHAL villages overlap with SWC watershed villages (Katara) where the department started working earlier. 2. SWC contribution levels from people - common land - 10%, private land - 15% In the case of PAHAL it is 15% for common land and 25% for private land 3. billing procedures highly simplified in PAHAL unlike SWC. Time required for paymrnts after starting work is within two weeks of completion of the works in the case of PAHAL while it goes upto a month in the case of the department. 4. SWC - follows the standard definition of a watershed, planning is first done on paper , execution is then done accordingly by people. PAHAL - deviates from standard norms of watershed programs. It follows the local definition of 'Pani dol'.The planning is done with the people on ground, emphasis is on bunding;field bunds rather than contour bunds are made.

3.	**DRDA**	- village level organisations formed by PAHAL intervention could become the recipient bodies for the DRDA programs also.	- PAHAL has also implemented poverty alleviation schemes like the DRDA. However in the case of PAHAL there is considerable follow up and efforts for providing the backward and forward linkages.	-DRDA is essentially a funding and monitoring agency, the implementation is done by the Panchayati Raj Institutions. The beneficiary selection is done through the Gram Sabha - once in 5 years but is said to be a politically motivated process. - PAHAL has a funding as well as facilitating role. Implementation is done by the VLOs in fairly close co-ordination with PAHAL staff.

97/15 Sida Support to Dinageca in Mozambique. Sue Nichols, Clarissa Fourie, Margarita Mejias
Department for Natural Resources and the Environment

97/16 Swedish Support to the Education Sector in Sri Lanka. Ulf Metzger, Tuija Stenbäck, Kusum Athukorala
Department for Democracy and Social Development

Sida Evaluations may be ordered from:

Biståndsforum, Sida
S-105 25 Stockholm
Phone: (+46) 8 698 5722
Fax: (+46) 8 698 5638

A complete backlist of earlier evaluation reports may be ordered from;

Sida, UTV, S-105 25 Stockholm
Phone: (+46) 8 698 5133
Fax: (+46) 8 698 5610

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
S-105 25 Stockholm, Sweden
Tel: +46 (0)8-698 50 00. Fax: +46 (0)8-20 88 64
Telegram: sida stockholm. Postgiro: 1 56 34–9
E-mail: info@sida.se. Homepage: http://www.sida.se