Title:	Contracting for Environmental Service Supply
Responsible Principal:	Mark Ellis-Jones
Responsible Advisors:	Mark Ellis-Jones, Kelsey Jack, Rohit Jindal
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1. This brief explains key decisions required by environmental service market intermediaries and/or buyers and sellers prior to contract formation, which contracts are provided in relevant draft form alongside this brief.
2. This brief has been prepared jointly by CARE with funding from the Richard and Rhoda Goldman Foundation, ICRAF and the Katoomba Group.
3. **Warning:** The precedent agreements to which this note relates are general working drafts which will require adaptation according to local circumstances and law. Property, contract and other laws vary depending on the local jurisdiction and it will be necessary to adapt the terms of this agreement into a final contract with the assistance of local counsel. This will ensure that the final agreement complies with local regulations and may be enforced in the local jurisdiction. No liability is accepted for any claims which may arise through use of this guide or associated precedent agreements, which are intended only as a guide to highlight the key issues that should be considered in PES transactions.

4. INTRODUCTION

Market intermediaries in collaboration with buyers and sellers of environmental services (ES) (or buyers and sellers alone) are required to take decisions about payments for environmental services (PES) contract and transaction design. Necessary decisions are elaborated below and will assist in structuring the relationship between buyers and sellers – the "PES contracts".

Who this note and associated precedents are aimed at

This explanatory document is aimed at:

- natural resource managers and programme managers within developing countries looking to establish ES markets as market intermediaries, and
- potential ES buyers and sellers

who have already ascertained PES viability, i.e. the existence of valuable ES, sufficient property rights and willing buyers and sellers. It is assumed that the reader will not have significant experience in transaction or contract design but does have some familiarity with the PES concept. It is further assumed that parties to the PES contract will obtain commercial legal advice in relation to PES implementation and it is advised that market intermediaries, buyers and sellers work through decisions and contracts with the assistance of a commercial or contract lawyer.

How this document should be used

This document sets out key decisions required to move a desire to establish an agreement for environmental services into an advanced draft PES contract. Decisions are highlighted in caps and bold. In Annex 1, a list of required decisions is cross-referenced to:

- The relevant precedent agreement which is the template for a PES contract.
- The relevant provision of the precedent agreement which should be amended as appropriate.

This guide highlights those issues which are likely to complicate risk allocation and the contracting process generally. However, the list of issues should not be considered absolute and is unlikely to move you to a finalised PES agreement. Once an early draft has been established, amendments can then be made with reference to local knowledge and local law, which will require input from your project team and a local commercial lawyer.

Decision topics

19 decisions are required in order to establish an advanced first draft agreement. Decisions relate to the following:

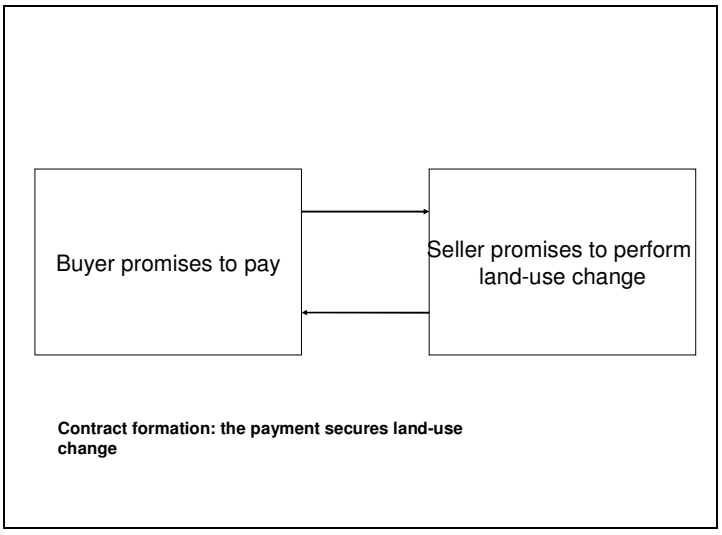
- Transaction Documentation
- Contractual Framework
- Contract Price
- Payment Type

- Conservation Strategy and Payments
- Other Contractual Issues

Why are these decisions required?

Under a PES arrangement, there are certain transaction characteristics which result in contract formation. Regardless of whether the transaction is carried out under the name of a "Memorandum of Understanding", a formal written agreement or a verbal agreement, a contract will still be in place regardless of jurisdiction because:

- land owners and managers supply environmental services or carry out land-use change anticipated to enhance provision of environmental services, and
- in return, "consideration"[1] will be given to the supplier of environmental services or those undertaking land-use change associated with environmental service provision.



Contract formation: the payment secures land-use change

As a contract is in place, it is important for both parties to have an identical understanding of their own and the counterparty's obligations and the allocation of risk within the PES agreement, which will reduce the likelihood of contract dispute and failure.

[1] "Consideration" is a legal term which refers to the compensation or reward which flows from the promisor (buyer) to the promisee (seller).

1. TRANSACTION DOCUMENTATION

DECISION 1: WRITTEN OR VERBAL PES CONTRACTS?

Market intermediaries together with buyers and sellers must decide whether the agreement should be verbal or written.

Advantages of Written Contracts

- A codified or written contract focuses market participants' minds and attention on their contractual obligations. A written contract in the local language leaves little room for misunderstanding and creates a record which can be simply referenced. By comparison, verbal contracts often lead to misunderstanding which damages trust between buyer and seller.
- Capacity building is seen to be an important benefit of PES programmes. Entering into written contracts may enhance the process of capacity building and commercial sophistication for sellers.

Disadvantage of Written Contracts

- Time and cost of drafting a proforma contract and no such cost for a verbal agreement. However, if using these with the help of a local lawyer, this should generally cost no more than USD 1,000 – 2,000.
- Time and cost of processing individual agreements.

Advice: From a legal or contractual viewpoint, there are disadvantages in proceeding on the basis of verbal contracts alone – and advantages in having a simple written contract in a local language – which need be no longer than several pages in length.

It is assumed for the purposes of this guide that buyers will proceed on the basis of written agreements.

2. CONTRACTUAL FRAMEWORK

DECISION 2: SUPPLY OF WHICH ENVIRONMENTAL SERVICE IS CONSIDERED UNDER THE CONTRACT?

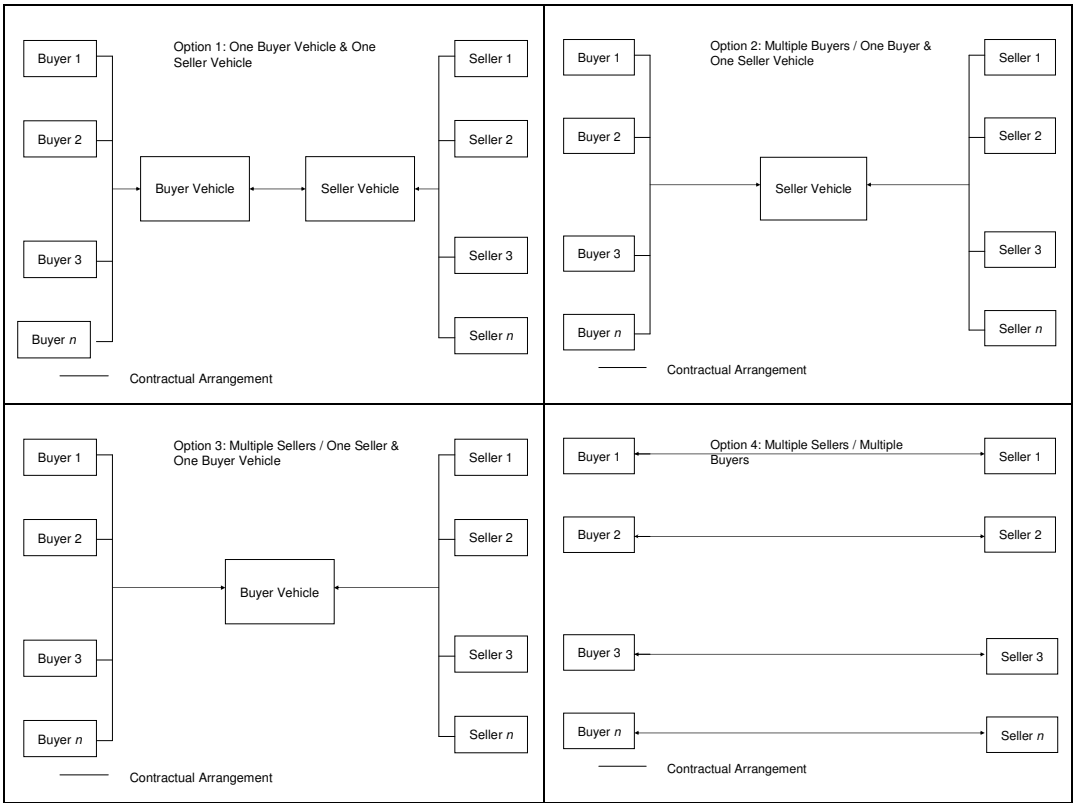
Market intermediaries and buyers will likely have in mind the ES to be supplied under the PES contract. This guide considers the upstream supply of the following services and the user is directed to the appropriate series.

- Watershed services: WS Series
- Carbon sequestration: CS Series
- Biodiversity: Biodiversity Series

DECISION 3: WHICH IS THE PREFERRED TRANSACTION STRUCTURE?

Market intermediaries are likely to have an understanding as to who the buyers and sellers will be within the market they are seeking to create. There may be one or multiple buyers or one or multiple sellers which can contract in a variety of ways, as illustrated below.

"Stand alone vehicles" are typically used where several parties are acting together towards a shared outcome. This enhances the efficiency of the contracting process by aggregating larger numbers of buyers or sellers and to both allocate and ring-fence risk within a discrete legal entity. For this reason it is likely that Options 1, 2 or 3 are likely to be preferable within most PES markets.



Option 1: One Buyer Vehicle / One Seller Vehicle

This structure will likely be useful where there are multiple ES suppliers and multiple beneficiaries both within a defined geographical area (for example a watershed) and there is a cost advantage in sell-side aggregation. Such a structure requires for both buyer and seller:

- pre-established "Buyer" and "Seller" representatives, such as a Water Resources Users' Association (WRUA) or Community Forest Association (CFA), or
- formation of a new legal entity, typically a company or trust requiring a shareholders' agreement or trust document.

Use the supply agreement (using seller aggregator) for the relevant service.

Option 2: Multiple Buyers / One Buyer & One Seller Vehicle

This structure will likely be useful where ES suppliers are found within a distinct geographical area but beneficiaries are not (for example within the VER (verified emissions reduction) market) and there is a cost advantage in sell-side aggregation. Such a structure requires a seller vehicle or representative either to be established or already formed as above.

Use the supply agreement (using seller aggregator) for the relevant service.

Option 3: Multiple Sellers / One Seller & One Buyer Vehicle

This structure will likely be useful where there are a small number of suppliers and requires a buyer vehicle or representative either to be established or already formed as above.

Use the supply agreement for the relevant service.

Option 4: Multiple Sellers / Multiple Buyers

Buyers and sellers can contract with whichever party suits their best interests.

Use the supply agreement for the relevant service.

DECISION 4: WHO IS THE BUYING CONTRACTUAL PARTY?

Once the programme structure has been decided, market intermediaries must define who or what will be the buyer or buyers, which for the purposes of the contract must be a legal person or persons with power to enter into contract.

DECISION 5: WHO IS THE SELLING CONTRACTUAL PARTY?

Similarly, a seller must be a legal person with power to enter into contract. Depending on the country, this is likely to preclude farmer's groups or other voluntary organisations which, subject to powers under which they have formed, are unlikely to have capacity to enter into contract. However, organisations created under statute such as WRUAs or Community Forest Groups are likely to have such powers, although this should be checked with your commercial advisor.

DECISION 6: WHAT ASPECT OF THE ES WILL BE TRADED?

Buyers and Sellers can contract for either:

- Land-use or land-use change associated with provision of environmental services
- Environmental service provision

Market intermediaries, buyers and sellers must decide which is more suitable to their situation, which decision will depend on the circumstances in which they seek to establish a market

Buyers and sellers will likely want to contract for land-use change in the following circumstances:

- High chance of external risk to supply – e.g. river bank collapse outside of the target area can worsen watershed service provision downstream regardless of activities in the target area.
- Significant time lag between land-use change and enhanced ES provision, which means that payments pegged to service provision will not crystallise sufficiently early to provide an incentive for conservation.
- ES supply is non-point source or highly dispersed with the possible result that costs of monitoring environmental service provision with a high degree of resolution is unacceptable to buyers.

Buyers and sellers will likely want to contract for ES provision in the following circumstances:

- Low chance of external risk to supply – e.g. tree planting where the land-owner controls most supply risk.
- No or small time lag between land-use change and enhanced environmental service provision.
- Dispersed results are monitored in a low-cost way.

3. CONTRACT PRICE

DECISION 7: WHAT IS THE CONTRACT PRICE?

The contract price is the level to which payments are made and can be fixed in a number of ways.

- Posted offer (with or without community consultations)
- Reverse Auction

Posted Offer (with or without community consultations)

Price will be fixed by buyers exclusively or by buyers following consultations and negotiations with seller communities. In setting a price, buyers (or market intermediaries) should consider the level of payment which is likely to secure participation of service providers in a sufficient number to enhance ES provision. In order to reach this decision, it may be helpful to first make decisions listed at 7.A.1 to 7.A.7 below.

DECISION 7.A.1: WHAT RATE TO PAY OPPORTUNITY COSTS?

Buyers may make an in-principle decision to compensate opportunity costs associated with lost production as a result of the new conservation technologies or land-uses. This decision can be informed by opportunity cost analysis and opportunity cost can be compensated in part or in full depending on decisions about treatment of labour costs, on-farm benefits of conservation measures and who will bear the cost of raw materials required for implementation of conservation measures.

As opportunity costs will vary from farm to farm, this creates a practical difficulty in paying a different rate of opportunity costs to every seller. Therefore buyers must make a decision about a fixed or standard rate of opportunity costs which will inform the contract price given to all participants. This decision is important because it will affect the rate of participation within the programme because land-owners are unlikely to join if the costs of participation are greater than what they will be paid. Further, buyers and market intermediaries should take a view on the highest estimate of opportunity costs they would be willing to concede at negotiations – as communities will have an incentive to inflate their estimates.

DECISION 7.A.2: SHOULD PAYMENTS BE TIERED TO ACCOUNT FOR DIFFERENT LEVELS OF ES PROVISION? (not relevant to carbon sequestration)

Some areas contribute more than others to ES provision. Therefore flat rate payment will likely not be cost be effective as a flat rate runs the risk of overpaying for land with low ES supply. Additionally, a flat rate may underpay for land with high ES provision.

DECISION 7.A.3: WHAT ARE ZONING CRITERIA FOR PAYMENT TIERS? (not relevant to carbon sequestration)

If buyers and market intermediaries decide that payment tiers would be useful, zoning criteria must be established according to which payments are made. Zoning requires a trade-off between efficiency (and optimising ES supply) and administrative complexity. An example would be to zone the target area in the following way:

- Zone 1 receives payments in the highest amount where ES supply is highest.
- Zone 2 receives payments in a lower amount where ES supply is moderate.
- Zone 3 receives payments in the lowest amount where ES supply is lowest.

DECISION 7.A.4: WHAT IS THE PREMIUM TO BE OFFERED FOR LAND WITH HIGH ES PROVISION? (not relevant to carbon sequestration)

The purpose of zoning land according to ES provision is to pay a premium for land which disproportionately contributes to ES provision and thereby provide additional incentive for land-owners in such areas to participate as sellers. The premium can be set with reference to estimated opportunity costs in these areas.

DECISION 7.A.5: WHO WILL SUPPLY RAW MATERIALS?

Whilst allocation of raw material costs will be included in opportunity cost analysis, this decision still needs to be clearly made and taken for the purposes of clarity of contract, which should clearly stipulate who will procure such raw materials.

Reverse auctions

Determining landholder opportunity costs is not straightforward since landholders will have an incentive to inflate the price at which they are willing to contract for ES supply. Additionally, approaches which estimate opportunity costs on the basis of foregone expected profits from alternative uses of the land, may underestimate or overlook unobservable factors, including risk preferences, time preferences, option values, cultural values, and subjective values which also affect opportunity cost. In principle, stated preference methods, such as contingent valuation, capture these hard-to-measure components of a landowner's WTA value. However as these methods rely on hypothetical questions to elicit valuations, they may result in biased responses because they provide no incentive to tell the truth (see the section below).

Reverse auctions avoid the problem of sellers seeking to manipulate contract price by creating temporary markets which provide data which can assist in price-setting. An appropriately designed auction provides an incentive for all bidders to reveal information about the price at which they are willing to enter into an ES contract. In the case of PES, landholders are invited to submit bids that represent their true willingness to accept the contract. Bids are accepted, starting with the lowest bid, until the budget is exhausted or the conservation target is met. Depending on the pricing rule, landholders may be paid just above their own submitted bid, or may all be paid the same contract price, which is set by the

first rejected bid. Other design variants, such as the use of a scoring rule to incorporate the environmental value of the land parcel, may be used in further enhance efficiency, though for the purpose of revealing opportunity cost, a straightforward reverse auction will suffice.

Finally, few auctions for conservation contracts have been run in developing countries and further work is needed to understand the importance of landholder familiarity with the mechanism or how it may result in allocations different from those achieved under a fixed price approach, as described above[2].

A Word of Warning about Using Contingent Valuation (CV) Methodologies to Fix Contract Price

A number of guides suggest using contingent valuation as a means to set contract price. This is problematic within a 'live' negotiation process as respondents to CV questionnaires have an incentive to inflate their estimates given the possibility to influence contract price. Where "willingness to accept" data is available, they should be treated as a first offer, against which a counter-offer should be made.

[2] For further information on the use of auctions as a means for price setting, please refer to Jack, Leimona and Ferraro (Conservation Biology, 2009) discuss the use of auctions for price revelation and the potential uses for the resulting data in scaling up a PES program.

4. PAYMENT TYPE

DECISION 8: CASH OR IN-KIND PAYMENTS

Cash can be paid in the local currency or in a currency agreed by Buyers and Sellers. Payment-in-kind refers to something given by one party to a transaction to another party to the same transaction which is not cash. The legal expression “payment-in-kind” does not differentiate between “compensation” and “reward” which are treated as the same thing for the purposes of contracting.

Advantages of cash

Cash payments are more simply administered and give the recipient greater freedom in spending their gains.

Advantages of payment-in-kind

Payments-in-kind are best used where buyers of the ES can reciprocally provide a good or service much needed by the ES supplier at considerably lower cost than this might be obtained on an open-market. In such circumstances, payment-in-kind can considerably reduce the costs of ES provision.

Advice

As a rule of thumb, payments-in-kind should only be used where a trade of excellent value to both buyers and sellers can be established, where:

- payment in-kind is cheaper than cash
- the benefit to the seller is high, and
- contingency can be maintained.

Criteria for Assessing Payment In-Kind Type

Certain principles should guide buyers and market intermediaries in assessing the optimum forms of payment in-kind. Whilst it will be necessary for market intermediaries to form a view on this issue, ideally it will be left to sellers in consultation with the buyers to decide what payment in-kind should be.

- **Cost effectiveness or efficiency**

  The payment-in-kind should be cheaper to procure than the cash payment.

- **Benefit to seller**

  The greater the benefit to the potential seller of a certain type of payment-in-kind, the greater the likelihood that the potential seller will be induced to participate in the programme. Additionally, the greater the benefit, the more their welfare will be enhanced. As a general rule, land-owners will not join the programme if the benefits of participation are smaller than the costs.

- **Benefit Spillovers**

  There are two forms of benefit spillovers which market intermediaries and buyers should consider:

  i. **Interpersonal spillovers - benefits to non-participants:** If a land-owner or manager does not participate in the programme, will they still have access to the benefits of the programme? For example if a road is built or maintained, non-sellers cannot be excluded from its use.

  A solution to such benefit spillovers is to structure the contract so as to only allow in-kind payments of this type where a certain level of participation is achieved amongst land-owners or managers. For example, if 85% participation is achieved, this could trigger a "community bonus" to which access by wider community members will not be restricted.

  ii. **Intertemporal spillovers - benefits to former participants:** If a land-owner or manager participating in the programme ceases his or her involvement in breach of contract, will they still have access to the benefits from their prior involvement although they breach their agreement? For example if funds are used to make one-off enhancements to education or health facilities, these benefits will still be available to the programme participant if they breach their agreement but can still access facilities.

  There is no solution to the "benefits flow contingency" problem, and as such compensation types such as new-build infrastructure should be avoided for this reason. However, maintenance of a swiftly depreciating capital asset (such as dirt roads) should generally not fall prey to this problem, although should be considered on a case-by-case basis.

- **Risk**

  Buyers and market intermediaries must consider three forms of risk:

  i. **Counterparty Risk:** this is the risk that under certain types of compensation a counterparty risk will arise. For example where using access to credit as payment, sellers may leave loans outstanding which may lead to the buyer incurring a cost associated with default.

  ii. **Market Risk:** the risk that cost to buyers of a certain type of in-kind payment might increase due to uncontrollable external factors. For example, if transport of goods to market is provided, the cost may increase due to increases in the cost of fuel.

iii. **Compensation Risk:** the risk that in kind payment types do not adequately compensation participants for their investments. For example, provision of improved seeds as an in-kind payment may result in reduced crop yields.

DECISION 8.A: HOW TO MAKE PAYMENT-IN-KIND?

There are a number of examples of payment mechanisms used in development and conservation projects. Types of payment mechanisms can be grouped roughly as follows:

- Goods or services (i.e. barter) – e.g. improved seeds or transport for produce.
- Non-fungible vouchers[3], which can be exchanged for specific goods or services supplied by the private sector – e.g. vouchers specifically for improved seeds or vouchers specifically for transport.
- Fungible vouchers – vouchers which have a direct cash value and which can be exchanged for goods and services in the seller's choice. Although for administrative purposes it is likely that the choice/suppliers will be restricted. In a fungible voucher scheme, all vouchers have the same value and can be exchanged for each other without the value changing.

In selecting the in-kind payment mechanism for buying watershed services – or the land-use thought to secure those services – market intermediaries and buyers must identify their core purposes, which amongst others may be:

- Enhancing seller choice
- Administrative efficiency
- Direct spending towards preferred goods and services

[3] Fungible refers to the identical nature of a good or commodity which allows individual units to be substituted for each other.

5. CONSERVATION STRATEGY & PAYMENTS

DECISION 9: ARE "GOOD STEWARDS" REWARDED?

Certain farmers within the target area may already practice the forms of land-use likely to be specified under the PES contract. Buyers and market intermediaries must decide whether such "good stewards" are rewarded.

Advantages of paying good stewards

Whilst there is prima facie no additionality in paying farmers for what they are already doing, payments would:

- Provide reward for services provided on an ongoing basis.
- Remove the perverse incentive for such farmers to remove soil conservation measures and then start again.

DECISION 10: TREATMENT OF FALLOWED LAND

Buyers and market intermediaries must decide how to treat fallowed land for the purposes of contracting for ES provision. This is a concern because payments may be sufficiently attractive to encourage participants to bring land out of fallow. This may not be in the interests of buyers from the perspective of costs or ES provision as the ES associated with fallowed land are likely to be high.

Buyers and market intermediaries have three options:

OPTION 1: Exclude currently fallowed land from introduction to the programme.

Advantages:

- Cost reduction.

Disadvantages:

- Buyers and market intermediaries are unlikely to know where fallowed land is.
- Buyers will have to meet the cost of implementation of soil conservation measures on land brought out of fallow during the second year and payments for land put into fallow after the first year will be wasted.
- Land brought out of fallow will not have soil conservation measures implemented.

OPTION 2: Pay for implementation of soil conservation measures on all fallowed land when it is brought into use.

Advantages:

- Cultivated land will always be under contract.

Disadvantages:

- The programme may suffer repeat costs associated with implementation of soil conservation measures as soil conservation measures will have to be reinstated after a fallow.

OPTION 3: Pay a small incentive payment for land that is properly fallowed with a contractual stipulation that a certain percentage of land be fallowed each year.

Advantages:

- There will be an incentive for land to be properly fallowed which is good conservation practice.

DECISION 11: HOW TO DEAL WITH ES PROVISION IN AREAS CULTIVATED ILLEGALLY?

Diminished environmental service provision is frequently associated with encroachment or cultivation contrary to national statutes, for example within forest boundaries, on steep slopes or within river riparian zones. This is potentially problematic as contracts for ES provision, whilst not void for illegality, could create the perception of tacit condonation of breach of law. A means to manoeuvre around the legal issue is to:

- require maintenance of the illegally cultivated area over and above that required by law, and
- make payment factoring in the opportunity costs of foregoing production in that area completely.

DECISION 12: SHOULD CONTRACTS BE RENEGOTIATED AND, IF SO, WHEN?

Circumstances material to contract formation are likely to change over time. For example, payments may not be required once on-farm benefits associated with the soil conservation begin to materialise. Equally, it may be discovered that contract price may have been set at a level too low to encourage participation. Further, there may be some elements of the contract which have undesirable or unpredictable consequences. Given these uncertainties, it may be in the interest of buyers to negotiate a contract for the first year of implementation only - after which a new contract can be renegotiated. As such, programme managers must choose whether they want the opportunity to renegotiate contracts and how frequently.

Realistically, buyers and sellers should only enter into a contract for the first year's commitments leaving the contract to be renegotiated towards the end of the first year, which subsequent contract may be for multiple years, allowing for renegotiation at certain pre-defined stop-go points.

6. OTHER CONTRACTUAL ISSUES

DECISION 13: INCORPORATE MILESTONES INTO CONTRACT DESIGN?

PES are considered to be an "investment in natural infrastructure". Typically in infrastructure agreements it is common practice to use "milestone payments". Milestone payments allow for part-payment when pre-agreed actions are undertaken before completion of the project in reward for significant progress.

They can be set with reference to time – eg payments every quarter on a pro rata basis. Alternatively or additionally, milestones can be set with reference to defined actions, eg contract signing, clearing of land in preparation for tree planting, tree planting etc.

Disadvantages

Costs incurred as a result of additional management time devoted to disbursements.

Advantages

- A key problem for traditional agri-environmental programmes in the past has been the delay in the arrival of benefits – whereas costs are experienced up front. In cases of acute poverty, even a wait of one year may impact negatively on short-term welfare. Because individuals in such communities have high personal discount rates, the costs of programme participation will be more readily apparent and act as a disincentive to programme participation.
- If the in-kind payments begin early, communities are likely to be quickly convinced of the added value which PES brings.

DECISION 14: TIMING AND TRIGGER OF PAYMENTS

Subject to the decision regarding milestones, programme managers must decide when payments are made to programme participants and what the trigger for such payments will be. Sellers themselves will be able to give a good indication as to when payments are most valuable – although to ensure contingency it is better that payments are made against service delivery (or continued maintenance of land-use in the specified form).

DECISION 15: USING COMMUNAL PUNITIVE MEASURES TO ENSURE PARTICIPATION

Programme managers are likely to have open to them means to establish punitive measures enforced by the community as is common within traditional agri-environmental schemes – and with which programme managers are likely to be familiar. Use of such measures is strongly discouraged.

DISADVANTAGES:

- Forced participation would not be in the spirit of the market principle – which assumes that people can voluntarily participate if they believe market participation will be in their best interests.
- The costs and benefits of programme participation are likely to be differentially experienced – some people will bear higher costs with relatively smaller benefits. Where the personal costs outweigh the benefits and participation is compulsory, such individuals will 'lose' through programme involvement, which would contradict our desire for equitability.
- Related to the above, it is a reality that even in the best-designed mechanisms there is likely to be greater influence from elites in contract design, which will not fully account for the interests of the poor. If the poorest are coerced into joining the programme, impacts may not be equitable.
- Where participation is coerced and individuals lose as a consequence of participation, pressure on alternative resources whether legal or illegal (such as surrounding forests) may increase – resulting in detrimental leakage.
- We would lose the "market signal". If land owners or managers decide to join the programme it is because they believe that the on-farm benefits and payment will make them better off than had they not joined. Equally, if land owners and managers do not join, one of the reasons will be because it will likely leave them poorer. This market characteristic will be very useful to programme managers in making adjustments to in-kind payment levels in the future. For example, if participation is low it may be because in-kind payments have been set at a level too low and should be enhanced.
- Compulsion may not be attainable. If farmers would be left worse off by participation, they would likely resist any attempts at compulsion.

There are alternatives to compulsory enforcement which would go some way to ensuring higher participation and would mobilise communities to self-motivate and participate together. Contractual incentives could be used to do this, for example through the use of a bonus scheme with community wide benefits when a certain percentage of community involvement is reached.

DECISION 16: WHAT IS THE MINIMUM LAND AREA WHICH CAN BE ENROLLED INTO THE PROGRAMME?

Poor (or poorer) landowners may be reluctant to enrol all their land within the programme in one tranche. For example a poor landowner may prefer to experiment with the profitability of PES participation by enrolling a small area of land first and evaluating profitability. This is anticipated to be the case owing to poor farmers' risk aversion and risk mitigation as a livelihood strategy. Programme managers need to balance the potential interest of small farmers to want to enrol small amounts of land with management efficiency. For example, if

the minimum land parcel is 0.25 acres – it may be more desirable for poor farmers to enrol but create more work for programme managers . Programme managers must also consider that poorer farmers may only have small parcels of land and may be excluded from the programme – which may damage any pro-poor programme objectives.

ADVICE: Market intermediaries and buyers must consider the trade-off between management efficiency and equitability in providing a stimulus for access by poorest farmers. If the village authorities are to be the contracting party – and there can be training in use of GPS – the cost of managing the inclusion of new land parcels within the programme can be reduced. From the perspective of equity – providing mechanisms to allow participation of poorer farmers is important.

DECISION 17: HOW SHOULD DELIVERY RISK BE ALLOCATED?

Certain risks to service delivery arise within a PES transaction. Such risk should be borne by the party best placed to manage it. The first risk will be posed by failure to acquire or deliver raw materials or inputs required for implementation of conservation measures (tree seedlings, manure etc). Where the buyer or market intermediary assumes responsibility for this delivery a penalty provision can be included in the contract which allows for sellers to be reimbursed for any damages which they may have incurred.

Other risks should remain within the control of the seller, for example fire, theft and vandalism (such as ring-barking). Where payment is “cash on delivery” – the allocation of risk to be borne by the seller is assumed.

DECISION 18: PAYING AN ADMINISTRATION FEE TO THE SELLER REPRESENTATIVE?

Precedent agreements allowing for seller aggregation provide an option to pay an administrative fee for persons and land enrolled within the ES market. Such a payment would cover administrative costs and create an incentive for third party aggregators to enrol land in the market. However buyers and market intermediaries should be cautious to align the payments with their interests as an administrative fee may become the overriding objective of any third party aggregator to the potential detriment of cost-effective ES provision.

DECISION 19: HOW WILL ES PROVISION BE MONITORED?

There will be a number of ways open to contract parties by which contract compliance can be measured. These should be specified for the sake of contract certainty. The default position in the precedent contracts is for compliance to the “reasonable satisfaction” of the buyer as measured according to requirements agreed between buyer and seller.

Annex 1: DECISION RECORD

Note: where a clause referred to below is not included within the relevant precedent, amendment to that clause should be overlooked.

Decision	Option	Action	Additional Notes
1. Written or verbal PES contracts?			
2. Supply of which environmental service is considered under the contract?	Carbon Sequestration/Storage	CS Series	
	Watershed Services	WS Series	
	Biodiversity	BioD Series	
3. Which is the preferred transaction structure?	**Option 1:** One Buyer Vehicle / One Seller Vehicle	Use supply agreement (using seller aggregator)	
	Option 2: Multiple Buyers / One Buyer & One Seller Vehicle	Use supply agreement (using seller aggregator)	
	Option 3: Multiple Sellers / One Seller & One Buyer Vehicle	Use supply agreement for the relevant service.	
	Option 4: Multiple Sellers / Multiple Buyers	Use supply agreement for the relevant service.	
4. Who is the buying contractual party?	Amend parties clause.		Ascertain party has power to enter into contract.
5. Who is the selling contractual party?	Amend parties clause.		Ascertain party has power to enter into contract.
6. What aspect of ES will be traded?	Service provision or Land-use change associated with service provision	Amend as appropriate:	
		Cover sheet	
		Recital A	
		Definitions: Catchment Conservation Plan, Conservation Measures, Watershed Services	

		Clauses 2.1 / 2.2 / 3.1 / 3.3 / 4.1 / 4.3	
7. What is the contractual price?	Amend parties clause.		Ascertain party has power to enter into contract.
7.A.1 What rate to pay opportunity costs?			
7.A.2: Should payments be tiered to account for different levels of ES provision?			Not relevant for carbon sequestration/storage
7.A.3: What are zoning criteria for payment tiers?			Not relevant for carbon sequestration/storage
7.A.4: What is the premium to be offered for land with high ES provision?			Not relevant for carbon sequestration/storage
7.A.5 Who will pay raw material costs?	Buyer/Seller	Delete or Amend Clause 3.1 as appropriate.	
8. Cash or in-kind payments?	Cash or Kind	Amend as appropriate: Definition of Payment Clause 4.6 (Delete as Appropriate) Schedule 3 (Delete as Appropriate)	
8.A How to make payments-in-kind?	Goods or services or vouchers for goods or services	Amend definition of payment	
9. Are "good stewards" rewarded?	Yes or no	Amend as appropriate Clause 4.3	
10. Treatment of fallowed land?	Exclude or include	Delete definition of Cultivated Land, Clause 4.4 as appropriate	
11. How to deal with ES provision in areas cultivated illegally?	As decided	Amend Schedules 1 & 2 as appropriate.	
12. Should contracts be renegotiated and, if so,	Yes/no	Amend Clause 8.2 as appropriate.	

when?			
13. Incorporate milestones into project design?	As decided	Amend Clause 5.1	
14. Timing and trigger of payments	As decided	Amend Clause 4.2 and 5.1	
15. Using communal punitive measures to ensure participation			
16. What is the minimum land area which can be enrolled into the programme?	As decided	Amend Clause 4.5	
17. How should delivery risk be allocated?	As decided	Amend Clause 4.2 and 5.1	
18. Paying an administration fee to the seller representative?	As decided	Amend Clause 3.3 (if Seller Aggregator)	
19. How will ES provision be monitored?	As decided	Add to Schedule 6	