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President's report

Proposed loan and grant to the Republic of Zambia for the Enhanced Smallholder Livestock Investment Programme

Note to Executive Board representatives

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For: **Approval**

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Logical framework

Abbreviations and acronyms

AfDB African Development Bank

CBPP contagious bovine pleuropneumonia

COSOP country strategic opportunities programme CVRI Central Veterinary Research Institute

DLD Department of Livestock Development (MAL)
DVS Department of Veterinary Services (MAL)

ECF east coast fever

E-SLIP Enhanced Smallholder Livestock Investment Programme

ITM infection and treatment method

LDAHP Livestock Development and Animal Health Project (World Bank)

LISP Livestock Infrastructure Support Project (AfDB)

MAL Ministry of Agriculture and Livestock

M&E monitoring and evaluation

OFID OPEC Fund for International Development
OIE World Organisation for Animal Health
PCO Programme Coordination Office

SLIP Smallholder Livestock Investment Project

Map of the programme area

Republic of Zambia

Enhanced Smallholder Livestock Investment Programme (E-SLIP) Final map



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

IFAD Map compiled by IFAD | 09-09- 2014

Republic of Zambia

Enhanced Smallholder Livestock Investment Programme Financing summary

Initiating institution: IFAD

Borrower/recipient: Republic of Zambia

Executing agency: Ministry of Agriculture and Livestock

Total programme cost: US\$46.3 million

Amount of IFAD loan: SDR 9.3 million (equivalent to approximately

US\$14.23 million)

Amount of IFAD grant: SDR 0.57 million (equivalent to approximately

US\$0.87 million)

Terms of IFAD loan: Highly concessional terms, 40 years, including a grace

period of 10 years, with a service charge of three fourths of one per cent (0.75 per cent) per annum

Cofinancier(s): OPEC Fund for International Development (OFID),

subject to approval

Amount of cofinancing: OFID: US\$12.0 million, subject to approval

Terms of cofinancing: Loan

Contribution of borrower/recipient: US\$10.6 million

Contribution of beneficiaries: US\$8.6 million

Appraising institution: IFAD

Cooperating institution: Directly supervised by IFAD

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¹ The Government requested OFID cofinancing. OFID is considering the request for 2015.

Recommendation for approval

The Executive Board is invited to approve the recommendation for the proposed financing to the Republic of Zambia for the Enhanced Smallholder Livestock Investment Programme, as contained in paragraph 34.

Proposed loan and grant to the Republic of Zambia for the Enhanced Smallholder Livestock Investment Programme

I. Strategic context and rationale

A. Country and rural development and poverty context

- 1. Zambia is a large landlocked country (752,618 km²). Agricultural land forms 31.5 per cent of the total land area. The population, which in 2012 grew at 2.9 per cent, totals 14.1 million: a population density of only 18.7 people/km², and of 59/km² for agricultural land. In July 2011, Zambia was classified by the World Bank as a lower-middle-income country. Its gross national income per capita in 2012 was US\$1,358. However, its Gini coefficient of 0.57 in 2010 indicates that the gains from general economic growth in the country are not closing the inequality gap, particularly in rural areas. A high proportion of rural Zambian women live in extreme poverty (62 per cent of households headed by women - Living Conditions Monitoring Survey [LCMS] Report 2010), with little access to basic services, few opportunities for sustainable livelihoods, and limited protection and support from legal and state institutions. Agriculture and agroprocessing account for some 40 per cent of Zambia's GDP and contribute about 12 per cent of export earnings, with agricultural production forming about 21 per cent of GDP, of which livestock production comprises 42 per cent. About 1.4 million smallholder households form the bulk of the agriculture-dependent population, over 20 per cent of which are headed by women. Some 25 per cent of rural households are engaged in subsistence agriculture, while about 33 per cent are marginal smallholders with the potential to achieve sustainable livelihoods by marketing small surpluses during years of reasonable rainfall, with the eventual possibility of joining some outgrower arrangements. The third group of smallholders includes households with the potential to become commercially oriented small-scale farmers. These households cultivate 1.5 hectares (ha) of land on average, generally using low-input, hand-hoe technology and relying primarily on family labour.
- 2. The LCMS Report 2010 indicated that 42.3 per cent of Zambians were classified as extremely poor. The proportion of those classified as extremely and moderately poor was significantly higher in rural areas (77.9 per cent, compared with 27.5 per cent in urban areas). Zambia's human development index, which has shown consistent improvement in recent years, albeit from a low base, was 0.448 in 2012 in the low human development category positioning the country at 163 out of 187 countries and territories. Despite its rich agricultural resources, Zambia has continued to experience chronic food and nutrition security problems. Stunted growth rates stand at 45 per cent (above the sub-Saharan average of 42 per cent), with 21 per cent being severe, while 15 per cent of under-5-year-olds are underweight, and 5 per cent are wasted. Stunted growth remains the most common nutritional disorder affecting children under five.

B. Rationale and alignment with government priorities and RB-COSOP

- 3. The Zambian livestock sector makes an important contribution to poverty reduction, household food security and nutrition, economic growth and exports, but is constrained by disease, inefficient natural resource use, lack of expertise in animal husbandry, limited genetic improvement, and lack of accessible knowledge and the necessary infrastructure for marketing and value addition. Contributing about 42 per cent of agricultural GDP, livestock production uses the abundant natural resource base, forms the major household capital reserve, diversifies income and provides draft power and manure to agriculture. Livestock sales provide cash for financing farm investments, crop inputs and household expenses, particularly in emergencies. Livestock products also contribute to household food security, in particular by providing high-quality proteins, essential structural fats and micronutrients. This makes livestock a useful tool in mitigating the effects of HIV/AIDS.
- 4. The ongoing IFAD-supported Smallholder Livestock Investment Project (SLIP) has provided valuable support to the Zambian livestock sector through strengthening government capacity for animal disease control and reducing the incidence of east coast fever (ECF) and contagious bovine pleuropneumonia (CBPP), which are among the main causes of cattle mortality in Zambia. Due to a range of institutional, technical and procurement-related constraints, the SLIP will not reach its disease control targets. However, the foundation for their achievement is now firmly established, and the potential exists to build on the SLIP in partnership with World Bank and African Development Bank (AfDB) investments to significantly lift smallholder livestock productivity and market access.
- 5. Despite broad development support, numerous constraints on improved smallholder livestock productivity remain. Disease control continues to be underfunded and challenged by: insufficient knowledge of disease frequency and impact, particularly for tick-borne diseases and internal parasites; remaining pockets of CBPP; and unreliable vaccine supply, particularly ECF stabilate.² Farmer adoption of improved animal husbandry practices for profitable livestock production is constrained by limited access to information and technology. In particular, improved rangeland management, fodder production and animal nutrition offer considerable potential to enhance productivity, but these technologies require participatory adaptation and dissemination to meet smallholder needs sustainably. Equally, poor households benefiting from government programmes to restock following decimation by livestock disease need holistic capacity development and market orientation to achieve sustainable, livestock-based livelihoods. Such initiatives, particularly targeting poor woman-headed households, are not covered by existing livestock-sector development investments and will be the focus of the proposed Enhanced Smallholder Livestock Investment Programme (E-SLIP).
- 6. E-SLIP design is fully compliant with two of the three main strategic objectives of the Zambia country strategic opportunities programme (COSOP) and will contribute to the third objective. The programme is also aligned with IFAD's Livestock Position Paper and the main IFAD policies and strategies on targeting and gender mainstreaming, rural enterprise development, private-sector development, climate change and environment, and natural resource management.

II. Programme description

A. Programme area and target group

7. The programme is national in scope, but in particular will be implemented in districts prone to outbreaks of contagious bovine pleuropneumonia (CBPP) and/or east coast

² A stabilate is a population of organisms similar to but more stable than a strain and maintained in viable condition for a particular purpose.

- fever (ECF) or districts in which these diseases are endemic. The programme will overlap with districts of the AfDB-financed Livestock Infrastructure Support Project (LISP) in the Muchinga and Northern provinces and of the World Bank-financed Livestock Development and Animal Health Project (LDAHP) in the Eastern, Southern and Western provinces.
- 8. The programme will target 180,000 poor smallholder livestock households (raising cattle, goats, pigs and poultry) in the programme areas, including members of producer organizations. It will specifically target poor women- and youth-headed households through targeted beneficiary quotas, gender-sensitized programmes and service delivery, and through application of "household methodologies" to enable more effective outreach to poor households and to improve intrahousehold gender relations. In addition, many of the remaining approximately 900,000 farm households that raise livestock will benefit indirectly from E-SLIP disease control and technology development.

B. Programme development objective

9. The programme goal is to sustainably improve the incomes of poor rural households in targeted provinces and districts. The programme development objective will be to sustainably improve the production and productivity of key livestock systems of targeted women and men smallholder producers in selected provinces of Zambia.

C. Components/outcomes

- 10. The E-SLIP has two operational components: (i) animal disease control sustainably improved; and (ii) livestock production systems sustainably improved. There is also a programme management component.
- Component 1 includes two subcomponents: (i) towards CBPP eradication; and 11. (ii) control of ECF. Subcomponent 1.1 will continue the SLIP programme of mass vaccination, serosurveillance and removal of positive herds (test and slaughter) to eradicate CBPP in Zambia under a programme progressively financed by the Government of the Republic of Zambia. Due to expected continuing CBPP incidence in neighbouring countries, the Government will maintain a 30-km-deep vaccination programme in affected areas after E-SLIP closure, while the programme will encourage the Government to continue engaging with its neighbours - either bilaterally and/or through the South African Development Community (SADC) - to find a regional solution to CBPP eradication. Subcomponent 1.2 has two activities: (i) ECF control; and (ii) ECF stabilate production at CVRI. The ECF immunization activity will continue the infection and treatment method (ITM) for immunization of calves initiated under the SLIP. As ECF incidence is reduced, the programme will also work with the Ministry of Agriculture and Livestock (MAL) and farmer groups to develop a holistic approach to tick-borne disease and tick burden management. It will support ECF-ITM delivery by private veterinary service providers. To meet domestic demand for ECF-ITM stabilate, the Central Veterinary Research Institute (CVRI) will be assisted in developing a commercially viable Theileria-paryastabilate production programme, under good management practice conditions and to the standards of the World Organisation for Animal Health (OIE).
- 12. Component 2 includes two subcomponents: (i) sustainable forage and forage seed production and use; and (ii) pro-poor stocking and restocking established. Subcomponent 2.1 will include: (i) introduction of mostly legume species and a few grasses into integrated livestock/crop farming systems; (ii) improvement of communal grazing areas through oversowing of well-adapted leguminous species; (iii) establishment of a contract seed production capacity and an associated buy-back programme, primarily within smallholder farming systems; (iv) engagement of rural schools, milk collection centres and livestock service centres in forage demonstration and promotion; (v) support to the development of community-managed stock water points; and (vi) build capacity for forage production,

processing, storage and utilization. Subcomponent 2.1 will expand MAL's restocking programme in the Muchinga, Northern, Eastern, Southern, Western and Luapula provinces. The subcomponent will target an estimated 28,000 poor smallholder households in about 640 villages, particularly targeting women, including womanheaded households (50 per cent), and rural youth-headed households (20 per cent). Beneficiaries, who will be identified through a community-led selection process and assisted in forming registered groups, will receive livestock "packages" (dairy heifers, goats, pigs or poultry) of their choice, which they will pay for through a pass-on mechanism to fellow poor households.

III. Programme implementation

A. Approach

13. The E-SLIP is designed - in alignment with the World Bank-financed LDAHP, the AfDB-financed LISP, and MAL livestock-sector development initiatives – to address critical gaps in Zambian livestock-sector services and technologies. These include control of key cattle diseases that are limiting smallholder herd growth, forage production for improved livestock health and productivity, and enlargement and enhancement of MAL's pro-poor restocking programme — an important pathway out of poverty for smallholder farmers. The E-SLIP approach will build on implementation of the SLIP, under which MAL is the programme coordinator and, at the central level, the Departments of Veterinary Services (DVS) and Livestock Development (DLD) implement their respective components, facilitated by specialized technical assistance and the Programme Coordination Office (PCO). At district and camp levels, the decentralized authorities implement programme activities in close coordination with the central authorities and the PCO. Rural community involvement will be critical to programme success. Empowered by NGOs contracted by the programme, communities will drive the restocking programme and play an important role in improving dry season protein availability in rangelands and in developing a more holistic approach to tick-borne disease management.

B. Organizational framework

14. The programme will be implemented over a seven-year period, coordinated by a small PCO, which will support MAL DVS and DLD in implementing components 1 and 2 respectively. The PCO will also facilitate MAL review and development of the government policies and regulations required to provide an enabling environment for E-SLIP activities.

C. Planning, monitoring and evaluation, and learning and knowledge management

The E-SLIP's approach to planning, monitoring and evaluation (M&E) and 15. knowledge management will build on the experience of the SLIP and other IFAD programmes/projects in Zambia. Annual work plans and budgets will provide the PCO with an implementation timetable for a set of carefully scheduled activities, together with their budgets and input requirements for the coming year. The M&E system will be based on the logical framework and will generate verifiable information on the programme's performance to help MAL, the PCO and parallel financing institutions plan and finance their activities, compare progress against targets and allow timely remedial action to correct problems. The programme will develop an index of gender empowerment based on programme outcomes in areas in which women are traditionally disadvantaged in rural Zambia in comparison with men - and with respect to livestock production. It will incorporate two approaches to knowledge management: (i) a subprogramme to support learning; and (ii) a broader programme aimed at informing government decision makers and influencing policy, notably concerning animal health management.

D. Financial management, procurement and governance

- 16. Financial management. The PCO will be responsible and accountable to the Government and IFAD for the proper use of funds apportioned to them, in line with the respective legal agreements, subsidiary financing agreements for financial institutions and contractual arrangements for service providers. A financial management assessment has been undertaken as part of programme design. Its objective is to provide assurance that MAL and participating districts will have sufficiently strong financial management systems and controls in place to properly manage, control and report on programme finances, in order to ensure that programme funds are used effectively and efficiently for the purpose intended. An existing computerized accounting system will be used for bookkeeping and reporting, strengthened by a budget control module and a revised chart of accounts. The system will provide detailed financial statements of programme operations, resources and expenditures for each fiscal year, prepared in accordance with internationally recognized accounting standards and procedures acceptable to IFAD and delivered to IFAD on a timely basis. In addition to the annual audited financial statements, IFAD will require interim semi-annual financial reports. The programme financial management arrangements are compatible with the government system and reflect IFAD's rules and regulations on disbursement documentation, procurement and audit. Fiduciary risk is rated as medium.
- 17. **Flow of funds.** IFAD will make funds available to the Government under the terms and conditions of the financing agreement. Programme funds will flow from IFAD through a single designated account in the central bank or a commercial bank acceptable to IFAD. Government funds will flow to a separate account. The designated account will be operated by the Ministry of Finance and will be administered following imprest fund arrangements.
- 18. **Procurement.** Procurement will be carried out in compliance with IFAD's Project Procurement Guidelines. The national procurement procedures, processes and regulations under the Procurement Law would be applied to the extent that they are consistent with IFAD guidelines.
- 19. **Internal control and external audit.** Internal control systems at the PCO level will be established and an internal auditor from MAL seconded to the programme. External audit will be carried out in compliance with International Financial Reporting Standards and the IFAD Guidelines on Project Audits (for Borrowers' Use). Audit reports will be submitted to IFAD within six months of the end of the relevant fiscal year.
- 20. **Governance.** The Government shall maintain a governance and anti-corruption framework throughout the programme implementation period to mitigate the risk of fraud and/or corruption and promote effective utilization of the proceeds of the financing.

E. Supervision

21. IFAD and MAL will jointly undertake supervision missions. The initial supervision and implementation support mission will take place within six months of programme start-up. Supervision will be based on IFAD's operational modalities and practices. As far as possible, the identity of personnel engaged in supervision and implementation support will not be changed frequently unless there are compelling reasons for doing so. The frequency and composition of supervision missions will be determined in the light of actual requirements and agreed by IFAD and the Government. The most important skills and experiences to be represented in the missions include: (i) financial management and procurement; (ii) animal disease control and animal health-services delivery; (iii) animal husbandry and nutrition; and (iv) programme planning and M&E.

IV. Programme costs, financing, benefits

A. Programme costs

22. Total programme cost is estimated at US\$46.3 million (351 million Zambian kwacha). Physical and price contingencies make up about 10 per cent of total programme costs. Contingencies include 8 per cent domestic inflation and 2 per cent foreign inflation, with physical contingencies of 2 per cent allowed for salaries and allowances. The foreign exchange component is estimated at 23 per cent of total programme costs. Taxes and duties make up approximately US\$2.5 million (5.4 per cent). Funds allocated to programme management amount to US\$6.5 million or 14.0 per cent of total programme base costs.

Table 1 **Programme costs by component and financier**(Thousands of United States dollars)

	IFAD loan	IFAD grant	Other cofinancier ^a	Beneficiaries ^b	Borrower/ counterpart	Total
Component	Amount	Amount	Amount	Amount	Amount	Amount
1. Animal disease control sustainably improved:						
1.1 Towards CBPP eradication	2 290	-	-	-	3 367	5 657
1.2 Control of ECF – 1.2.1 ECF control	2 072	-	-	3 960	700	6 732
1.2 Control of ECF – 1.2.2 ECF stabilate production at CVRI	938	-	-	-	627	1 565
Livestock production systems sustainably improved						
2.1 Sustainable forage and forage seed production and use	3 623	683	1 865	-	980	7 151
2.2 Pro-poor stocking and restocking established	-	-	10 132	4 661	3 909	18 702
3. Programme management	5 303	185	-	-	985	6 473
Total	14 225	868	11 997	8 621	10 568	46 279

^a The Government requested OPEC Fund for International Development (OFID) cofinancing. OFID is considering the request for 2015.

^b Both in cash and in kind.

B. Programme financing

23. IFAD will finance 32.6 per cent of programme costs (US\$15.1 million) through a loan of US\$14.23 million to the Government on highly concessionary terms and a grant of US\$0.87 million. Other financier(s) are expected to contribute US\$12.0 million, or 25.9 per cent of total costs, also on concessionary terms. The Government will contribute 22.8 per cent of programme costs (US\$10.6 million), which is the estimated tax element in E-SLIP transactions, together with a 30 per cent contribution to restocking costs, some staff salaries and field allowances and a proportion of CBPP delivery costs. The beneficiary contribution will be US\$8.6 million (18.6 per cent), consisting of a progressively increasing proportion of the cost of ECF-ITM vaccination and the costs of housing, fodder and animal health services under the restocking programme.

Table 2 **Programme costs by expenditure category and financier**(Thousands of United States dollars)

	IFAD Id	an	IFAD gi	rant	Other cofina	ancier ^a	Beneficia	ries ^b	Borrow counter		Total
Expenditure category ^c	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount
I. Investment costs											
A. Works	55	90.0	-	-	-	-	-	-	6	10.0	61
B. Equipment material	5 025	37.9	233	1.8	1 145	8.6	5 024	37.9	1 835	13.8	13 262
C. Vehicles	726	37.8	-	-	417	21.7	-	-	778	40.5	1 921
D. Training/workshops/studies	1 375	39.3	363	10.4	1 681	48.1	-	-	76	2.2	3 495
E. National consultancies	8	2.8	-	-	221	82.2	-	-	40	15.0	269
F. International consultancies	243	46.0	273	51.6	-	-	-	-	13	2.4	528
G. Contractual services	-	-	-	-	4 567	100.0	-	-	0	-	4 567
H. Cofunding	-	-	-	-	2 554	35.2	3 596	49.6	1 094	15.1	7 244
II. Recurrent costs											
A. Operations & maintenance	1 021	56.5	-	-	220	12.2	-	-	565	31.3	1 806
B. Salaries & allowances	5 772	44.0	-	-	1 192	9.1	-	-	6 161	46.9	13 125
Total programme costs	14 225	30.7	868	1.9	11 997	25.9	8 621	18.6	10 568	22.8	46 279

^a The Government requested OFID cofinancing. OFID is considering the request for 2015.

C. Summary benefit and economic analysis

24. The financial analysis shows a significant increase in gross and net returns comparing with- and without-programme situations, and a high benefit/cost ratio, illustrating the worthiness of the investments. The economic analysis indicates that the E-SLIP is robust in economic terms, showing an economic internal rate of return (EIRR) of 26.9 per cent and a net present value (NPV) of about US\$70.1 million over 20 years. Eradication of CBPP and control of ECF will benefit both poor and wealthy women and men cattle owners, who constitute some 21 per cent of smallholder farmers. Households without cattle will benefit from improved access to animal traction. Forage production and animal stocking and restocking are targeted to benefit poorer households, particularly woman- and youth-headed households, which respectively will represent at least 50 and 20 per cent of the beneficiaries under component 2.

D. Sustainability

The programme emphasizes building the capacity of DVS and DLD at both headquarters and field levels. The programme will build staff capacity in CBPP eradication, tick-borne disease management, forage incorporation into farming systems and rangelands and sustainable restocking. The programme will also enhance MAL's capacity to use private service providers for the delivery of publicgood animal health services and, through full cost-recovery measures, create a favourable environment for the privatization of ECF-ITM immunization. Community action and solidarity will be essential to a successful outcome. NGOs will mobilize beneficiary communities and build their capacity, confidence and social capital. Community-based identification of poor households to participate in the restocking programme will significantly improve sustainability. Community action will also underpin the introduction of leguminous forage varieties into rangelands. Moreover, the restocking programme will largely be financed by beneficiaries through the pass-on process, and could continue beyond the programme life if desired, driven by community action. All knowledge management activities aim to improve understanding of animal production and health issues, thus creating momentum for improvement of livestock production and productivity and support

^b Both in cash and in kind.

^c Final disbursement categories will be decided during negotiations based on IFAD's procedures, which will include a maximum of five cost categories for reasons of efficiency.

services. This will disproportionately benefit the rural poor and is thus an investment in equitable economic and social development.

E. Risk identification and mitigation

26. At the programme goal level, the risk of external shocks to the macroeconomy is a significant one, as strong domestic demand and prices for livestock products are dependent on continued overall economic growth. At the programme objective level, the main risk is that the Government's poverty reduction programme would lose its focus on agriculture development, including livestock production, as a key to rural poverty reduction. At the outcome level, the main risks are institutional and managerial, rather than technical or scientific. In general, there is a high degree of understanding of the role of livestock in smallholder agriculture. To mitigate these risks, programme design takes a minimalist and affordable approach to essential institutional strengthening at national and local levels, and provides for full-time dedicated technical assistance, comprehensive beneficiary participation and post-programme institutional and technical sustainability. Programme financing is also scaled, with the Government and beneficiaries taking increasing responsibility for component financing across the life of the programme.

V. Corporate considerations

A. Compliance with IFAD policies

27. The proposed programme complies fully with: the IFAD Strategic Framework 2011-2015; all prevailing IFAD policies and strategies (including those on environmental and social assessment, gender, targeting, private-sector development and partnership, fraud and corruption prevention, procurement, supervision and implementation support, programme M&E, innovation, knowledge management, the environment and natural resource management); the prevailing guidelines for programme design reports; and the Results and Impact Management System. Design of the E-SLIP has been informed by both local and global knowledge, with the Government and other local partners providing key inputs into the design process. Globally, design has been informed by lessons learned in other countries with similar or comparable features and the policies of IFAD, in particular in the East and Southern Africa subregion.

B. Alignment and harmonization

28. Livestock is identified as a priority growth area in Zambia's Sixth National Development Plan. The E-SLIP will be implemented in close alignment with the World Bank-financed LDAHP in the Eastern, Southern and Western provinces and the AfDB-financed LISP in the Muchinga and Northern provinces. World Bank and AfDB staff will be observers to the E-SLIP Programme Steering Committee. The programme will also partner with: the Food and Agriculture Organization of the United Nations on the integration of livestock production into their conservation agriculture programme in Zambia; the World Food Programme on their school milk programme; private animal health service providers under the animal health component; NGOs under the animal production and productivity component; and private livestock markets and product processors across the programme. The E-SLIP will work closely with the IFAD-financed Rural Finance Expansion Programme (RUFEP). Beneficiary communities will be closely engaged in programme implementation and monitoring.

C. Innovations and scaling up

29. The programme includes innovative approaches to both disease control and forage production. The ECF-ITM immunization process is emerging in East Africa as the most viable alternative to cattle dipping, whose long-term future is threatened by growing tick resistance to acaracides, which are not being replaced in the market. The forage programme offers an inventive and sustainable approach to community-based forage and forage seed production, including the use of schools as an

information conduit that is self-scaling, driven by farmer demand. The restocking activity builds on government programmes that will scale up programme successes. The cost of the control of CBPP will be progressively transferred to the Government over the life of the programme, while that of ECF-ITM will be transferred to the private sector, strengthening the long-term sustainability of both.

D. Policy engagement

30. The programme will support the Department for Policy and Programming in reviewing and developing strategies and policies relevant to programme implementation. These could include, inter alia: (i) public- and private-sector roles in the delivery of outcomes in national animal health and livestock and livestock-product food safety; (ii) disease control strategies; (iii) design, funding and management of an emergency disease control fund; (iv) sustainable monitoring of smallholder livestock production and health; (v) empowerment of women for livestock production; and (vi) strengthening of forage seed testing and registration.

VI. Legal instruments and authority

- 31. A financing agreement between the Republic of Zambia and IFAD will constitute the legal instrument for extending the proposed financing to the borrower/recipient. A copy of the negotiated financing agreement is attached as an annex.
- 32. The Republic of Zambia is empowered under its laws to receive financing from IFAD.
- 33. I am satisfied that the proposed financing will comply with the Agreement Establishing IFAD and the policies and criteria for IFAD financing.

VII. Recommendation

34. I recommend that the Executive Board approve the proposed financing in terms of the following resolutions:

RESOLVED: that the Fund shall provide a loan on highly concessional terms to the Republic of Zambia in an amount equivalent to nine million three hundred thousand special drawing rights (SDR 9,300,000), and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

RESOLVED FURTHER: that the Fund shall provide a grant to the Republic of Zambia in an amount equivalent to five hundred and seventy thousand special drawing rights (SDR 570,000) and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

Kanayo F. Nwanze President

Negotiated financing agreement: "Enhanced – Smallholder Livestock Investment Programme (E-SLIP)"

(Negotiations concluded on 13 August 2014)

Loan Number: Grant Number:

Programme Title: Enhanced Smallholder Livestock Investment Programme ("Programme")

The Republic of Zambia (the "Borrower/Recipient")

and

The International Fund for Agricultural Development (the "Fund" or "IFAD")

(each a "Party" and both of them collectively the "Parties")

WHEREAS,

- (A) The Borrower/Recipient has requested Financing from the Fund for the purpose of financing the Programme described in Schedule 1 to this Agreement;
- (B) The Borrower/Recipient intends to apply for a loan in the amount of twelve million United States Dollars (USD 12 000 000) from the OPEC Fund for International Development ("OFID") to partly finance the Programme (the "OFID Financing"), on terms and conditions to be set forth in a financing agreement between the Borrower/Recipient and OFID (the "OFID Financing Agreement");

WHEREAS, the Fund has agreed to extend a Loan and a Grant to the Borrower/Recipient on the terms and conditions set forth in this Agreement.

NOW THEREFORE, the Parties hereto hereby agree as follows:

Section A

- 1. The following documents collectively form this Agreement: this document, the Programme Description and Implementation Arrangements (Schedule 1), the Allocation Table (Schedule 2) and the Special Covenants (Schedule 3).
- 2. The Fund's General Conditions for Agricultural Development Financing dated 29 April 2009, as may be amended from time to time (the "General Conditions") are annexed to this Agreement, and all provisions thereof shall apply to this Agreement. For the purposes of this Agreement the terms defined in the General Conditions shall have the meanings set forth herein.
- 3. The Fund shall provide a Loan and a Grant (the "Financing") which the Borrower/Recipient shall use to implement the Programme in accordance with the terms and conditions of this Agreement.

Section B

1. A. The amount of the Loan is nine million three hundred thousand Special

Drawing Rights (SDR 9 300 000).

B. The amount of the Grant is five hundred and seventy thousand Special Drawing Rights (SDR 570 000).

- 2. The Loan is granted on highly concessional terms and shall be free of interest but bear a service charge of three fourths of one per cent (0.75%) per annum payable semi-annually in the Loan Service Payment Currency, and shall have a maturity period of forty (40) years, including a grace period of ten (10) years starting from the date of approval of the Loan by the Fund's Executive Board.
- 3. The Loan Service Payment Currency shall be in United States Dollar (USD).
- 4. The first day of the applicable Fiscal Year shall be 1 January.
- 5. Principal and service charge shall be payable on each 1 May and 1 November.
- 6. The Borrower/Recipient shall open and thereafter maintain a Designated Account in USD at the Central Bank of Zambia, for the purpose of receiving the Financing proceeds and an operational account denominated in local currency for Programme operations in a commercial bank acceptable to the Fund (the "Programme Account"). The Programme Coordination Office (PCO) shall be authorised to operate the Programme Account.
- 7. The Borrower/Recipient shall provide counterpart Financing for the Programme in the amount of ten million six hundred thousand United States Dollars (USD 10 600 000).

Section C

- 1. The Lead Programme Agency shall be the Ministry of Agriculture and Livestock (MAL) through the Policy and Planning Department (PPD).
- 2. The following are designated as additional Programme Parties: (i) Department of Veterinary Services (DVS); and (ii) Department of Livestock Development (DLD).
- 3. The Programme Completion Date shall be the seventh anniversary of the date of entry into force of this Agreement.

Section D

The Loan and the Grant shall be administered, and the Programme supervised by, the Fund.

Section E

- 1. The following is designated as an additional ground for suspension of this Agreement: The Programme Implementation Manual (PIM) referred to in paragraph 9.1, Section II of Schedule I hereto or any provision thereof has been waived, suspended, terminated, amended or modified without the prior agreement of the Fund and the Fund, after consultation with the Borrower/Recipient, has determined that such waiver, suspension, termination, amendment or modification has had, or is likely to have, a material adverse effect on the Programme, and the Borrower/Recipient has not taken any measures to remedy the situation.
- 2. The following is designated as an additional ground for cancellation, specifically for funding for co-financed activities under Component 1, sub-component 2, described in Schedule 1, paragraph 5.1.2 of this Agreement; financing for co-funded activities, funded under the OFID Financing Agreement and the Financing, to the extent this has

entered into force, has been cancelled and no other sources of funding have been identified to cover the financing gap for said activities.

3. The following are designated as additional general conditions precedent to withdrawal:

- (i) The Borrower/Recipient shall have duly opened the Designated Account referred to in Section B.6 above;
- (ii) The Borrower/Recipient shall have established the Programme Steering Committee (PSC) as referred to in paragraph 6.1, Section II of Schedule I hereto; and
- (iii) The Borrower/Recipient shall have established a Programme Coordination Office (PCO) as referred to in paragraph 7.1, Section II of Schedule I hereto.
- 4. The following are the designated representatives and addresses to be used for any communication related to this Agreement:

For the Borrower/Recipient:

The Secretary to the Treasury Ministry of Finance P.O. Box 50062 Chimanga Road Lusaka, Zambia

For the Fund:

The President International Fund for Agricultural Development Via Paolo di Dono, 44 00142 Rome, Italy

This Agreement has been prepared in the English language in six (6) original copies, three (3) for the Fund and three (3) for the Borrower/Recipient.

Authorized Representative
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT
Kanayo F. Nwanze

THE REPUBLIC OF ZAMBIA

Schedule 1

Programme Description and Implementation Arrangements

I. Programme Description

- 1. Programme Area. The Programme is national in scope and shall in particular be implemented in districts endemic or prone to Contagious Bovine Pleuropneumonia (CBPP) and/or East Coast Fever (ECF) disease outbreaks throughout the Borrower/Recipient's territory (the "Programme Area").
- 2. *Target Population*. The Programme shall benefit approximately 180 000 female and male smallholder livestock-keeping households in the Programme Area including members of producer organisations.
- 3. *Goal*. The goal of the Programme is to sustainably improve incomes of rural poor households in the Programme Area.
- 4. *Objective*. The objective of the Programme is to sustainably improve the production and productivity of key livestock systems of the Target Population within the Programme Area.
- 5. *Components*. The Programme shall consist of the following Components:
- 5.1. Component 1: <u>Sustainably improve animal disease control</u>. This Component shall include the following two Sub-components intended to support activities aimed at:
 - 5.1.1. Sub-component 1.1 (Towards CBPP eradication):
 - a) Achieving a disease-free declaration in CBPP affected districts;
 - b) Vaccinating at least 95% of cattle in CBPP-designated in the border areas of the Borrower/Recipient's territory; and
 - c) Establishing operational community CBPP task forces in 80% of CBPP targeted districts.
 - 5.1.2. Sub-component 1.2 (The control of ECF):
 - a) Ensuring that at least 180 000 animals annually receive ECF infection and treatment (ITM) method by the Programme Completion Date;
 - b) Full cost recovery from livestock owners for ECF ITM treatment; and
 - c) Ensuring that the Central Veterinary Research Institute (CVRI) receives certification of Good Management Practice (GMP) and registration at the Zambia Medicine Regulation Authority for ECF stabilate production.
- 5.2. Component 2: <u>Sustainably improve livestock production systems</u>. This Component shall include the following two Sub-components intended to support activities aimed at:
- 5.2.1. Sub-component 2.1 (Sustainable Forage and Forage Seed Production and Utilization):

a) Establishing forage on 80 000 smallholder farms and 200 000 hectare of rangeland reinforced with legumes;

- b) Ensuring that no less than 60 schools, 40 Milk Collection Centres (MCCs), and 100 Livestock Service Centres (LSCs) participate in forage demonstration;
- c) Ensuring that 50 water points are established in the Programme Area.

5.2.2. Sub-component 2.2 (Pro-poor Stocking and Re-stocking Established):

a) Ensuring that in addition to poor farmers, no less than 14 000 female-headed households and 5 000 youth receive poverty alleviating livestock packages.

II. Implementation Arrangements

6. <u>Programme Steering Committee</u>

6.1. The Lead Programme Agency shall establish the Programme Steering Committee (PSC) which shall inform the Borrower/Recipient on overall execution of the Programme and ensure effective coordination among relevant government and donor-funded Programmes. The PSC shall be chaired by the Permanent Secretary of the MAL and shall include relevant MAL Directors, the Chief Accountant, the Chairperson of the Veterinary Council, representatives of the Ministry of Finance (MoF), Ministry of Education and Ministry of Local Government and Housing at Director level and any other member as deemed appropriate. The Programme Coordinator shall act as Secretary to the PSC. Among other things, the PSC shall be in charge of the strategic management of the Programme including: (i) appointment of key Programme staff, (ii) approval of the PIM and the AWPBs, (iii) approval of Programme Progress Reports, and (iv) taking any other decisions related to Programme coordination, orientation and mobilization of resources.

7. Programme Coordination Office

7.1. Programme implementation shall be coordinated by a Programme Coordination Office (PCO) and, to this end, the Borrower/Recipient shall establish the PCO, which shall report directly to the PPD. The PCO shall have such powers and functions as detailed in the PIM including: (i) day-to-day coordination of the Programme; (ii) ensuring coherence of Programme approaches and strategies, and integration of Programme activities; (iii) ensuring coordination and synergy of the co-implementing Departments and technical service providers, the provincial and district level agencies, and grassroots communities; (iv) contracting suitable service providers; (v) ensuring accountable management of the Financing by preparing the PIM, AWPBs, management of recruited technical assistance and audit service providers; (vi) ensuring the establishment and operation of the Programme Account, Management Information System, Monitoring & Evaluation system, and other functions of the operational and financial management of the Programme; and (vii) facilitating knowledge sharing and policy development, in collaboration with co-implementing Departments.

8. Service Provider Performance-based Contracts

8.1. The Lead Programme Agency shall enter into a performance-based contract with each service provider for the implementation of the Programme. Each such performance-based contract shall clearly specify the scope of the work to be undertaken, expected deliverables, estimated budget for specific activities, as well as clearly defined milestones for disbursement. Each such contract shall be monitored closely by the PCO and shall: (i) specify that the service provider shall maintain a register of assets (e.g.

Goods and equipment) acquired with the proceeds of the Financing and that at termination of the performance-based contract, such assets shall be transferred to the Lead Programme Agency; and (ii) be submitted to the Fund for its prior approval. Each performance-based contract may not be modified without prior consent of the Fund.

9. <u>Programme Implementation Manual</u>

9.1. The Programme shall be implemented in accordance with the PIM, the terms of which, following the Fund's prior approval, shall be adopted by the PCO. The PIM shall include, among other things: (i) Roles or terms of reference of all financing, coordinating and implementing parties, implementation responsibilities and appointment modalities of all Programme staff and consultants; (ii) Programme operating manuals and procedures; (iii) Management and Information System and procedures; (iv) Monitoring and evaluation systems and procedures; (v) a detailed description of implementation arrangements for each Programme component; (vi) Modalities for the selection of service provider(s) to be based on transparent and competitive processes; and (vii) Financial management, flow of funds and reporting arrangements including accounting, approval of payments, financial reporting, internal controls, fixed asset management, internal and external audit arrangements as well as detailed procurement procedures.

10. Mid-Term Review

10.1. The Lead Programme Agency and the Fund shall jointly carry out a review of the Programme implementation towards the end of the third anniversary of the date of Entry into Force of this Agreement (the "Mid-Term Review") based on terms of reference prepared by the Lead Programme Agency and approved by the Fund. Among other things, the Mid-Term Review shall consider the performance and financial management of service providers, the efficacy of technical assistance and capacity building activities, the overall achievement of Programme objectives and the constraints thereon and recommend such reorientation as may be required to achieve such objectives and remove such constraints. The Borrower/Recipient shall ensure that the agreed recommendations resulting from the Mid-Term Review are implemented within the specified time therefor and to the satisfaction of the Fund. Such recommendations may result in modifications to this Agreement or cancellation of the Financing.

Schedule 2

Allocation Table

1. Allocation of Loan and Grant Proceeds. (a) The Table below sets forth the Categories of Eligible Expenditures to be financed by the Loan and the Grant and the allocation of the amounts of the Loan and the Grant to each Category and the percentages of expenditures for items to be financed in each Category:

Cate	egory	Loan Amount Allocated (Expressed in SDR '000)	Grant Amount Allocated (Expressed in SDR '000)	Percentage*
I.	Equipment, Materials & Works Vehicles	3 020 440	250	100% net of taxes 100% net of taxes
III.	Training, TA, & Studies	670	100	100% net of taxes
IV. V.	Salaries & Allowances Operating Costs	3 640 600	160 -	100% net of taxes 100% net of taxes
Unallocated		930	60	
TOTAL		9 300	570	

^{*} All amounts shall be net of Government, beneficiary and other contributions, as the case may be.

(b) The terms used in the Table above are defined as follows:

"Equipment, Materials & Works" under Category I means Eligible Expenditures related to equipment, materials and civil works.

"Vehicles" under Category II means Eligible Expenditures related to motor vehicles, motorcycles and bicycles.

"Training, TA & Studies" under Category III means Eligible Expenditures related to training, technical assistance, workshops, studies, national and international consultancies.

"Salaries & Allowances" under Category IV means Eligible Expenditures related to staff salaries and allowances.

"Operating Costs" under Category V means Eligible Expenditures related to operating costs and maintenance, consumables and office expenditures.

2. Start-up Costs. Withdrawals to meet the costs of starting up the Programme incurred before the satisfaction of the general conditions precedent to withdrawal must be approved in advance by the Fund and shall not exceed an aggregate amount of USD 300 000.

Schedule 3

Special Covenants

In accordance with Section 12.01(a)(xxiii) of the General Conditions, the Fund may suspend, in whole or in part, the right of the Borrower/Recipient to request withdrawals from the Loan Account and the Grant Account if the Borrower/Recipient has defaulted in the performance of any covenant set forth below, and the Fund has determined that such default has had, or is likely to have, a material adverse effect on the Programme:

- 1. Taxes. The Borrower/Recipient shall ensure that all goods, civil works, and services procured are exempt from duties, excise taxes, and value added taxes (VAT). Any duties, excise taxes, VAT which the Programme is obliged to pay shall be promptly reimbursed by the Borrower/Recipient.
- 2. Insurance of Programme Personnel. The Borrower/Recipient shall ensure that the PCO shall insure Programme personnel against health and accident risks to the extent consistent with its customary practice in respect of its national civil service.
- 3. Fraud and Corruption. The Borrower/Recipient shall maintain a Governance and Anti-corruption Framework throughout the Programme implementation period to mitigate the risk of fraud and/or corruption and promote effective utilisation of the proceeds of the Financing. The Borrower/Recipient shall promptly bring to the attention of the Fund any allegations or concerns of fraud and/or corruption in relation to the implementation of the Programme of which it has knowledge or becomes aware.
- 4. Gender. The Borrower/Recipient shall ensure that women are represented in the organization and management of the Programme. The Borrower/Recipient shall also ensure that women beneficiaries shall be represented in all Programme activities and that they receive appropriate benefits from the Programme outputs.
- 5. Resource Protection. The Borrower/Recipient shall take all reasonable measures to ensure that existing laws are enforced to safeguard water, forest and wildlife resources in the Programme Area. The Borrower/Recipient shall take all measures to ensure sustainability of the Programme without any detriment to the environment and shall promote natural resources' sustainability.
- 6. Use of Programme Vehicles and Other Equipment. The Borrower/Recipient shall ensure that all vehicles and other equipment transferred to or procured under the Programme are dedicated solely to Programme use.
- 7. Financial Reports. The Borrower/Recipient shall ensure that interim financial reports are provided to the Fund on a six-monthly basis.
- 8. Financial Statements of Service Providers. The Borrower/Recipient shall ensure that the performance-based contract of each Service Provider shall specify that the service provider will make available to the Lead Programme Agency, through the PCO, the statements of sources and uses of funds related to Programme activities under their respective responsibility within two (2) months of the termination of each performance-based contract. The PCO shall attach such statements of sources and uses of funds to its own financial statements for subsequent submission to the Fund.
- 9. Audit. The Office of the Auditor General of Zambia shall carry out the audit of the Programme or, in the alternative, shall ensure the competitive selection of and the appointment of independent auditors acceptable to the Fund, under terms of reference cleared by the Fund annually and in line with the IFAD Guidelines for Project Audits. An audited annual consolidated financial statement for the entire Programme, together with

a management letter on audit observations on internal controls, shall be submitted to the Fund within six (6) months of the end of the Fiscal Year.

- 10. Programme Performance Assessment. The PCO shall prepare a comprehensive Programme Performance Assessment (PPA) at the end of the Programme implementation period. The PPA shall be in line with the Fund's guidelines and format for Programme performance assessments and shall include: participation of the target groups, the Programme's strategies and approaches, relevance, financial management, efficiency, outputs delivery, effectiveness, impacts, sustainability, innovation, upscalability and replicability.
- 11. Programme Implementation Manual. The Borrower/Recipient shall ensure that the PIM referred to in Paragraph 9.1, Section II of Schedule I hereto shall have been adopted by the PCO substantially in the form approved by the Fund no later than one (1) year after the date of entry into force of this Agreement.
- 12. Integrated Financial Management Information System (IFMIS). The Borrower/Recipient shall have profiled the Programme within IFMIS upon its rolling out.
- 13. Financial Management Package. Promptly after entry into force of this Agreement, the Borrower/Recipient shall enable the PCO to purchase a simple off-the-shelf financial management package to be replaced during the Programme Implementation Period by the Integrated Financial Management Information System (IFMIS).
- 14. *Counterpart Financing*. The Borrower/Recipient shall make available its counterpart financing to the Programme throughout the Programme implementation period.

Logical framework

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
Goal:			
Sustainably improved incomes of rural poor households in targeted provinces and districts in Zambia	 100,000 households in Programmetargeted districts have at least 25% increase in baseline income (disaggregated by gender); 10% reduction in the prevalence of child malnutrition rate from the 2014 GRZ baseline in Component 2 districts. Equal livelihood improvements for female- and male-headed households. 	 Baseline, periodic and impact evaluation surveys. Statistics and other data from government institutions, NGOs and other sources. 	Political stability maintained (A) Macro-economy continues to improve (A) Social, political and economic environments remain conducive to market-based livestock development (A)
Programme Development Objective:			
The production and productivity of key livestock systems of targeted female and male smallholder producers in selected provinces and districts of Zambia sustainably improved.	 Cattle offtake rate in Programme-targeted districts increases by 25%; Livestock assets of poorest quintile of rural households in Programme-targeted districts increase by 30%. Gender empowerment index of Programme female beneficiaries increased by 50% above baseline 	 Baseline, periodic and impact evaluation surveys. Provincial statistics Survey/case study data.(Rural Agricultural Livelihood Survey/ ALive Livestock Sector Investment and Policy Toolkit) 	As above, plus: Business regulatory system remains favourable (A) Sustained Government commitment to livestock sector development (A)
Component 1. Animal Disease Control Sustainably Improved. Reduction in the prevalence of CBPP and ECF to levels that allow smallholders' cattle herds to grow.	 OIE mandated conditions for declaration of freedom from CBPP has been achieved in areas outside the maintained buffer vaccination zones; 40% reduction in ECF incidence in the target districts; CVRI sustainably meeting Zambia's ECF stabilate requirements. 	 MAL DVS field reports to NALEIC MAL DVS reports to OIE. Survey/case study .Reports 	Private veterinarians do not participate in the delivery of publicly funded animal health services (R) Government supports full cost recovery for ECF infection and treatment method (ITM) (A) CVRI vaccine production has financial independence (A)
Outputs: Sub-component 1.1: Toward CBPP eradication 1.1.1. CBPP border vaccination program operational in Muchinga, Northern, and Northwestern provinces 1.1.2. CBPP sero-surveillance operational in Muchinga, Northern, Northwestern and Southern Provinces Sub-component 1.2: Control of ECF 1.2.1 Sustainable ECF immunization programs operating in Central, Copperbelt, Eastern, Lusaka,	 Disease freedom declared in CBPP affected districts; At least 95% vaccination of cattle in CBPP- designated border areas in Muchinga, Northern, and Northwestern provinces. Community CBPP Task Forces operational in 80 % of CBPP districts At least 180,000 animals receive ECF ITM treatment annually by Programmeend Full cost recovery from livestock owners 	 Monthly District and Provincial animal health reports to MAL DVS; MAL DVS records and OIE reports; CVRI test results and reports; Case studies. Annual statistically valid surveys to estimate ECF seroprevalence in non-vaccinated animals (to estimate a prevalence of 50% +-5% with 95% confidence); Annual statistically valid post- 	Local service providers used for animal vaccination (A) CVRI does not have the necessary technical and managerial capacity for sustainable ECF stabilate production (R) Animal movement control and traceability systems are operational and effective (A) Absence of cordon line (R) Farmer ability to pay (R) Government willingness to increase ECF immunisation fee (A) The use of other tick-borne disease control measures (R)

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
Muchinga, Northern and Southern Provinces; 1.2.2 ECF sero-surveillance programs operational in Central, , Copperbelt, Eastern, Lusaka, Muchinga, Northern and Southern provinces; 1.2.3 GMP and ZAMRA-certified ECF stabilate production at CVRI	for ECF ITM treatment; CVRI has GMP certification and ZAMRA registration for ECF stabilate production and can show compliance from records.	immunization surveys to determine effectiveness of immunisation (target prevalence of 80% +-5% with 95% confidence)	
Component 2: Livestock Production Systems Sustainably Improved. Sustainable systems for improved smallholder livestock production and productivity operational.	 At least 80,000 households have established a minimum of one Lima¹ of improved forage each; Sustainable forage seed supply system established; 80 % beneficiary satisfaction with restocking and pass-on Programme 90% of re-stocked animals passed-on to third generation beneficiaries by programme end. 	 evaluation surveys. Periodic District and Provincial DLD reports; Ex-ante and ex-post competency surveys of Programme trainees; 	Smallholder farmers have adequate access to land for forage production (A) NGO's have capacity to support community mobilization in restocked areas (A) Adverse climatic events or pest outbreaks don't impact component activities (R) Livestock product demand and prices remain strong (A)
Sub-component 2.1 Sustainable Forage and Forage Seed Production and Use 2.1.1 Household and community-based forage reinforcement of farming systems and rangeland; 2.1.2 Sustainable forage seed production program with private sector participation; 2.1.3 Schools-based forage learning and demonstration Programme; 2.1.4 Access by livestock to water Sub-component 2.2: Pro-poor Stocking and Re-stocking Established 2.2.1 Community mobilization and capacity building for restocking 2.2.2 Stocking and Restocking of poor female-headed households and youth	 Forage established on 80,000 smallholder farms and 200,000 ha of rangeland reinforced with legumes; At least 60 schools, 40 milk collection centres and 100 LSCs participating in forage demonstration 50 water points established in targeted areas 	 Financial records and audit reports Field surveys and case studies Participatory monitoring/ ranking of forage species and strategies Field reports 	Communities can identify restocking beneficiaries without moral hazards, and beneficiaries are willing to make matching contributions (A). MAL maintains strong support for iterative program (A) Households willing and able to adopt appropriate technologies and innovations (A) Inadequate access to all-season water points for forage production and livestock (R) Range of well adapted forage legumes introduced and available from start-up (A) Appropriate technologies and innovations are technically & financially viable and available for uptake by households (A) Quick start-up on wide array of sites using diverse delivery mechanisms (A). Inadequate emphasis on seed production (R) Seed prices increase to level that precludes extensive over sowing of rangeland (R) Excessive seed slippage into commercial sector and across borders (R)

One Lima is 2,500 m²