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AGENCY FOR INTERNATIONAL DEVELOPMENT

MEETING ON
EXTENSIVE LIVESTOCK DEVELOPMENT
IN SUB-SAHARAN AFRICA

Monday,
September 9, 1985

U.S. Department of State
Room 5941
Washington, D.C.

P A R T I C I P A N T S

PANEL MEMBERS:

JOHN ERIKSSON, Chairman

GERALD W. THOMAS, New Mexico State University

DIXIE R. SMITH, Forest Service

THAD BOX, Utah State University

A.J. DYE, U.S. Department of Agriculture

STEPHEN BERWICK, International Institute for Environment
and Development

NED RAUN, Winrock International

HAROLD S. HEADY, University of California at Berkeley

STEPHEN SANDFORD, International Livestock Center for Africa

GARY R. EVANS, U.S. Department of Agriculture

ALLAN HOBEN, Boston University

ALSO PRESENT:

LARRY ABEL, AFR/TR/ARD

MARCUS L. WINTER, AFR/TR/ARD

MOLLY KUX, S&T/FENR

JOHN D. SULLIVAN, S&T/FENR

ABE WALDSTEIN, S&T/RD

WARREN PUTMAN, S&T/AGR

RAYMOND E. MEYER, S&T/AGR

WILBUR G. THOMAS, USAID/MALI

PATRICK FLEURET, AID/AFR/DP

RALPH CUMMINGS, JR., AID/S&T/FA

TRID MUKHERJEE/ AID/ANE/TR/AD

CHUCK HAINES, AID/S&T/AGR

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P A R T I C I P A N T S

ALSO PRESENT: (continued)

H. ROBERT WACK, U.S. Department of Agriculture
JOAN ATHERTON, PPC/PDRP/IP
TOM CATTERSON, AFT/TR/SDP

P R O C E E D I N G S

(8:50 a.m.)

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3 DR. ERIKSSON: Let's get started, please. To begin
4 with, I think it would be useful to just make very brief
5 introductions as we go around the room. As I indicated,
6 we do have a tight agenda, and it will be my challenge to
7 try to keep things moving along.

8 We have several AID staff joining us today also who
9 are more or less sitting around the perimeter of the room,
10 who are here to act as resource persons to the experts, and
11 also to engage in the discussion as time permits.

12 As moderator, I'm John Eriksson, Deputy Assistant
13 Administrator for Research in Science and Technology Bureau
14 of the AID. I'm really subbing at this point for my boss,
15 Nyle Brady, who will be joining us later this morning, and
16 hosting a lunch for the invited experts at noon today.

17 So if I may turn to my left, Gerald Thomas.

18 DR. THOMAS: Gerald Thomas, New Mexico State
19 University.

20 DR. SMITH: I'm Dixie Smith, representing the Forest
21 Service.

22 DR. BOX: Thad Box, Utah State University.

1 DR. DYE: A.J. Dye, the Office of International
2 Cooperation and Development, Department of Agriculture.

3 DR. BERWICK: Steve Berwick, International Institute
4 for Environment and Development.

5 DR. RAUN: Ned Raun, Winrock International.

6 DR. HEADY: Harold Heady, University of California
7 at Berkeley.

8 DR. SANDFORD: Stephen Sandford, International
9 Livestock Center for Africa.

10 DR. EVANS: Gary Evans, Agricultural Research
11 Service.

12 DR. ERIKSSON: All right. I think that includes
13 everyone that includes Dr. Allan Hoben from Boston University
14 who I've been told was not able to make it on the airlines
15 yesterday, and will be joining us soon in about a half hour
16 or 45 minutes.

17 Quickly around the perimeter.

18 MR. WACK: Bob Wack, USDA/OICD. I helped most of
19 you fellows get here by one way or another.

20 MR. HAINES: Chuck Haines, S&T, Office of
21 Agriculture, Livestock.

22 DR. MUKHERJEE: Trid Mukherjee, Agriculture and

1 Redevelopment Office, AID.

2 MR. CUMMINGS: Ralph Cummings, Jr., Director of
3 Food and Agriculture, Bureau of Science and Technology in AID.

4 MR. FLEURET: I'm Pat Fleuret in the Africa Bureau
5 Planning Office.

6 MR. THOMAS: I'm Wilbur Thomas, formerly of the
7 Near East Bureau and I will be ADO in USAID/Mali.

8 MR. MEYER: I'm Ray Myer from Office of Agriculture
9 S&T, Soil and Water Resources.

10 MR. PUTNAM: Warren Putnam, S&T with Agriculture.

11 MR. WALDSTEIN: Abe Waldstein, S&T, Rural Develop-
12 ment.

13 MR. SULLIVAN: I'm Jack Sullivan. I'm Director of
14 the Office of Forestry, Environment, and Natural Resources in
15 Science and Technology Bureau.

16 MS. KUX: I'm Molly Kux from the same office.
17 I'm an environmental specialist.

18 MR. WINTER: Marc Winter from the Office of
19 Agriculture and Rural Development in the Bureau.

20 DR. ERIKSSON: He's the chief of that office.

21 MR. ABEL: Larry Abel from Africa Bureau, Agricul-
22 tural Development Office.

1 DR. ERIKSSON: And a livestock specialist in the
2 African Bureau. Okay. Thank you. Without further ado, let
3 me direct your attention to a problem statement which I be-
4 lieve we've all received. I will also ask you for the sake
5 of our stenographer, Ms. McLaughlin, who did not introduce
6 herself, if you would please sign in, and also would you at
7 least like the first couple of times as we go around for
8 people to identify themselves.

9 DR. HEADY: Excuse me. May I make a correction in
10 the list? I think my phone number is down wrong, if that is
11 important.

12 DR. ERIKSSON: Well, why don't I send you the list
13 here, Dr. Heady, and if you would correct it on my master
14 sheet. There were a couple of other errors on that sheet.
15 We've persistently misspelled both Allan Hoben's name and
16 Stephen Sandford's name for which we extend our apologies.
17 S-a-n-d-f-o-r-d and H-o-b-e-n.

18 Let me go right to the core problem statement.
19 In the light of the crucial role that livestock play in the
20 African production system, our knowledge of the technical
21 and policy environments, and the failures over the past 15
22 years of interventions designed to manage the range lands

1 in Sub-saharan Africa, should AID try to promote development
2 of sustainable, extensive livestock production systems in
3 that region? And then we attempt to break that question into
4 a number of component parts around which we've organized the
5 agenda for today between now and three o'clock this afternoon,
6 and then leaving the experts some time -- roughly two-and-a-
7 half hours this afternoon -- to meet strictly among themselves
8 to develop findings and recommendations for a brief meeting
9 tomorrow with AID and USDA participants, and then a meeting
10 with the Administrator tomorrow morning from ten until noon.

11 As I think indicated in the letter that went out
12 to you, the AID has had significant history of support for
13 livestock, and, of course, here we're talking particularly
14 about extensive livestock development, but the experience has
15 been distinctly mixed. And we are asking you for the full
16 brunt of your wisdom and expertise and experience. Although
17 we have policy and strategy statements in this area, we are
18 anxious to take whatever advice you have for us, and to
19 consider it, and so please lay all your cards out on the
20 table for us.

21 The first question, then, having to do with purpose:
22 livestock projects have been criticized for having multiple,

1 inconsistent and overly ambitious objectives. The objectives
2 fall into three categories: production and income-related,
3 equity and social or political objectives, and environmental.
4 What should be the purposes of livestock development programs,
5 extensive livestock development programs in Sub-saharan
6 Africa. With that, I open the floor for discussion either
7 from people at the table, or perhaps people around the room
8 may wish to make any elaboration, taking as a point of
9 departure the problem statement based on the AID experience
10 or concerns.

11 DR. THOMAS: John, I might start out by --

12 DR. ERIKSSON: This is Gerald Thomas.

13 DR. THOMAS: Gerald Thomas -- by stating that
14 the problemstatement is both challenging in that the question
15 that seems to be before the group is not how to intervene,
16 but whether or not we should be involved in extensive live-
17 stock projects.

18 And that is a much more serious question than the
19 question of how. And that overriding question then impacts
20 on all of the related topics, and I'm not sure that we should
21 be looking at that big question until we have an adequate
22 discussion of the subs. And then decide whether or not

1 livestock projects have or have not been successful, whether
2 or not we should be making some changes in the approaches.

3 So I think that my main concern is whether or not
4 we should focus on the bigger question, or whether or not,
5 first, we should have an open discussion of whether or not
6 that assumption is correct that projects have generally not
7 been successful in Africa, and from whose perspective.

8 DR. ERIKSSON: That's a fair point. Just let me
9 indicate that indeed the more fundamental question is a live
10 one. The Administrator has, in effect, posed this question,
11 and again, we are talking about extensive livestock develop-
12 ment projects, not mixed farming systems or intensive live-
13 stock production.

14 I think that if I understand you correctly the
15 formulation is an appropriate one, and these -- at least I
16 see some of these more detailed questions as questions dealing
17 with more of the how-to and how-have-we-done. And only after
18 that sort of the discussion perhaps is it more desirable
19 or effective to come back to the broader question.

20 The two are related in that sense, of course --
21 the how-to and whether-to. Now maybe you were saying also
22 that even purpose is a rather broad question, and perhaps is

1 better dealt with after a more-detailed question of experience
2 and some of these other sub-questions.

3 DR. THOMAS: Thomas, again, John. I think it's
4 appropriate to ask the question if the Administrator is con-
5 cerned about it, and I think that's a very challenging way
6 to start off the discussion.

7 But I think if we put that in the forefront it's
8 going to influence a free and open discussion of what has
9 actually happened in these areas, and what constitutes ex-
10 tensive livestock production. .

11 DR. SANDFORD: I'd like to follow up on that one.
12 Sandford. In the papers that have come out to us I've seen
13 references, the original note from the Administrator seems
14 to have been about nomads. We've had references to range
15 lands, and we've had references to extensive. They don't seem
16 to me to be quite the same thing in the sense that I see
17 extensive systems including those who use small areas of
18 natural grazing and crop residues as well as large blocks
19 which we might call range lands, and the nomads would be
20 a subgroup of those who use range.

21 So it would be quite helpful if you gave us some
22 guidance as to which class of system we are actually going to

1 talk about.

2 DR. ERIKSSON: Well, at least at the leve of the
3 Administrator and the senior management staff of the Agency,
4 I suppose there is a tendency to -- and this may be perhaps
5 well be part of our problem -- our tendency to lump these
6 three categories together, and what you are indicating is
7 that, in fact, there are significant distinctions amcng them.

8 So I think some clarification from you in this
9 regard for our benefit certainly would be useful.

10 DR. BERWICK: Berwick, IIED. Just to chase that,
11 in looking through the materials that were issued, some of
12 the memoranda look at the subject of African range managemen
13 The problem statement deals with livestock development, and
14 S&T Bureau's projects are related to both livestock and range
15 management. This is consistently muddled for me throughout,
16 and if that could be clarified I think it would be help me.

17 DR. HEADY: Heady. I follow along here. I found
18 most of the material given to me was livestock while our
19 job seems to be range livestock, or range management and
20 livestock, and hence I don't think the projects whether
21 they've failed or been good have really in too many cases
22 addressed what we've been asked to come here to do.

1 DR. ERIKSSON: Well, it may be that some of the
2 material deals with the broader question of livestock. But
3 on the other hand, you used the term range livestock, and I
4 think that's what we really would like you to focus on.

5 DR. HEADY: I'd go farther than that. Range land
6 and range livestock.

7 DR. ERIKSSON: All right.

8 DR. HEADY: You see? And when you start putting
9 those together, these materials haven't covered it.

10 DR. ERIKSSON: I think it's possible to view range
11 livestock as an entry point perhaps into the broader
12 question of range land management. It's a typical entry
13 point, I think, for a donor agency such as ours because this
14 is the forum in which project activity is typically pre-
15 sented to us.

16 DR. HEADY: It goes that way.

17 DR. ERIKSSON: With which we're typically confront-
18 ed. The topic of range land management poses really alterna-
19 tive uses --

20 DR. HEADY: And I think they should be.

21 DR. ERIKSSON: -- of that natural resource which I
22 think it's a fair question to certainly raise with the

1 Administrator.

2 DR. SANDFORD: I think we have a problem here.
3 The size of the systems which are exclusively dependent on
4 natural vegetation, the rangelands, is constantly decreasing
5 over time. We are getting more and more movement to integrate
6 use of natural vegetation, and perhaps at some times of the
7 year with movement back into cultivated areas.

8 And although there are in terms of management of
9 the vegetation differences, in terms of management of develop-
10 ment and management of projects, I don't think it makes too
11 much sense to split them up.

12 And, indeed, one of the problems with some of the
13 projects has been precisely because they've been looking for
14 systems which depend wholly on natural vegetation, and have,
15 therefore, ignored some of the important bits.

16 I would try and press towards a somewhat more wider
17 definition, thinking all the time of the dryer end of the
18 ecological spectrum, but to include the semi-arid mixed-use
19 of crop residues, farmland, as well as natural vegetation.

20 DR. ERIKSSON: So in a sense, in this first section
21 we are talking about definition right along with purpose
22 so it's an entirely appropriate subject. And what I hear is

1 a recommendation for adopting a wider definition, one that
2 encompasses use of natural vegetation as well as cultivated,
3 and alternative uses. Maybe that's going too far. Let me
4 pose it -- alternative uses of rangeland.

5 I guess I have a bit of a problem here myself.
6 Does the very term "rangeland" necessarily imply natural
7 vegetation, and when we talk about cropping or cultivated,
8 are we getting away from rangeland?

9 You used the term "arid," I guess, Stephen, to
10 imply --

11 DR. SANDFORD: Well, dryer anyhow.

12 DR. ERIKSSON: Dry.

13 DR. HEADY: I hope we don't get into that question
14 because we can go on semantics for a long time. Let us just
15 realize that a good deal of the dryer part is natural
16 vegetation, but those animals go to the cultivated land,
17 and you can't separate that system from the dry land system
18 at all. And besides that, we have land that goes back and
19 forth between those two systems.

20 So I don't think we need to really spend -- I hope
21 we don't spend time on trying to draw a boundary line there.

22 DR. ERIKSSON: Thad.

1 DR. BOX: Thad Box. I think that your broader
2 definition is what we really ought to be looking at, and I
3 agree with Harold that we shouldn't try to separate out whether
4 we're looking at crop livestock production systems or range
5 livestock production systems. Anything that is managed on an
6 ecological basis in dry country I think should be fair
7 game for this group here today.

8 DR. ERIKSSON: All right.

9 DR. RAUN: Well, I would just second what Stephen
10 and Harold and Thad have said. Your opening comments that
11 were made really pretty much indicated that we were just
12 strictly to look at rangeland, extensive systems on range-
13 land.

14 Is that correct?

15 DR. ERIKSSON: Yes.

16 DR. RAUN: But I believe the comments have been
17 made, and I agree with those, I think it's going to be pretty
18 hard to restrict it just to that because I think cropping --
19 one way or another -- it's not just cropping, subsistence
20 food crops, and if you've got a river valley, or you have an
21 oasis or you have a spring or something like that, and food
22 crops come into it, I think it's going to be very hard to

1 just restrict it to just strictly rangeland systems. I think
2 in the context you have to look at this, how crops and/or
3 subsistence crops fit into that scheme of things.

4 DR. HEADY: I will go as far as to say this will be
5 our recommendations by the time we're finished here tomorrow
6 that we instead of just straight livestock or straight range,
7 that we use that whole system of cultivated system, coordina-
8 tion, integration, cultivated land, rangelands, extensive
9 basis, and from the material I've seen many of the AID
10 projects did not do that.

11 And this, in turn, may be part of the problem of
12 failures along the line.

13 DR. ERIKSSON: Others agree with that?

14 DR. THOMAS: I agree. However, I think that we
15 have to somehow or other recognize that the types of land
16 have to be managed differently in these complicated systems.
17 That land that doesn't have the potential for cultivation
18 and can only be managed as native vegetation has to be looked
19 at a little differently than land that is subject to periodic
20 cultivation or cultivation as such.

21 So what we've got -- we've got certain types of
22 land. We've got systems that overlap the land. And somehow

1 or other we've got to approach that, and the land that is
2 uncultivated, I think, is probably -- or at least in the
3 marginal lands that are periodically cultivated are where
4 the problems lie from a resource management standpoint.

5 And those lands have to be looked at not only from
6 the standpoint of livestock production but there are other
7 values associated with those: wildlife, watershed, and so
8 on.

9 So we've really got systems that are very complicated
10 but overlap certain kinds of lands with certain kinds of
11 social structures on these lands which further complicate
12 it.

13 I think the problem is, as Steve said, it's looking
14 at the dryer areas, the arid and semi-arid lands, where the
15 complications are, and where maybe our aspiration for pro-
16 ductivity are beyond -- expectations are too high perhaps.

17 DR. RAUN: Another one is we need to take into
18 consideration population pressures. As population increases
19 and then people -- in turn, there's increasing pressure for
20 the use of these semi-arid and arid lands, and then, in
21 turn, the issue of proper land use, resource utilization,
22 becomes increasingly important.

1 When population pressures aren't so great, okay,
2 things kind of take care of themselves. But as population
3 pressures build and the land runs out in the higher poten-
4 tial areas, and then the people start moving out into the
5 dryer, lower-potential areas, then you're confronted with the
6 question of how it is that you can protect that land and
7 conserve that resource, and in systems that can be sus-
8 tainable over time.

9 So that is another dimension when we start talking
10 about the interrelationship between rangeland and other
11 uses for crops in one form or another. And I think that point
12 is often overlooked. There's a tendency on one hand to think,
13 okay, just rangeland.

14 Or on the other hand, we've got our dry land farming
15 systems projects, and AID has a lot of those, and I think
16 that they're pretty much divorced. I don't think there's
17 really much linkage between the two. You look at rangeland
18 for what it is. You look at dry land cropping systems, but
19 you don't -- or you haven't established the linkage between
20 the two in some instances, at least.

21 DR. ERIKSSON: As you look at these specific purposes
22 here that are identified on the first and second page of the

1 problem statement handout, am I hearing that if one were to
2 pick out -- well, let me throw the question back to you.
3 If you were to pick out one of these sub-objectives, that is
4 the ones after the bullets -- I think there are ten bullets
5 there -- which one would you pick? I think I know which I'm
6 hearing, but -- or are they all so far off-base that you
7 wouldn't pick any of them, and you would reformulate a
8 purpose, and if so what would the reformulation be?

9 DR. HEADY: I would reformulate the whole word.

10 DR. BOX: Yes, but even if you do reformulate, in
11 any individual country one may be -- or a project, you may
12 have one that is more important than the others. I think it's
13 a matter of setting the goals of what you want to accomplish.
14 If it's social equity, then you have one kind of a project.

15 If it's increased red meat production, you
16 may have another.

17 DR. ERIKSSON: Stephen?

18 DR. SANDFORD: Can I pick up the first statement
19 to this. Projects have been criticized for having multiple,
20 inconsistent and overly ambitious objectives. I think having
21 multiple objectives as you add to your development effort
22 is absolutely inevitable. There's no way we can live in a

1 wholly simple world. But I think there's some confusion
2 between as it were your overall objectives in your develop-
3 ment effort in these areas and the specific targets for
4 particular projects.

5 As far as the overall objective is concerned, I'm
6 sure we have to think about income-related one, about equity
7 ones, and about environmental ones. There is no way we can
8 brush any of these under the table.

9 However, I do think it's true that particular
10 projects are very often made too ambitious, and more and more
11 is added on to a particular project, to the point where no
12 project manager or no project team can possibly cope with
13 the management problems.

14 So I think in the wording there's, in a sense, a
15 bit of a confusion that we could use goals and objectives if
16 we used goals for the particular targets for a project. I
17 think they very often are far too ambitious, but in terms of
18 can we get rid of these, any of these things after the
19 bullets, well, not really.

20 You can't suddenly say we're going to totally ignore
21 feeding urban consumers. All governments have to be involved
22 in worrying about it. And as I think it was Thad who said,

1 it's going to differ -- the relative emphasis is going to
2 differ a bit from country to country, but there is no way
3 that sitting in Washington we can, I think, draw up rules
4 about this to say we will never pay attention to one of
5 these.

6 DR. ERIKSSON: Yes, I think the point you're making
7 is an important one in reverse. You're saying that certainly
8 at a broad level we do need and will to keep in mind several
9 goals, and then let's not get too ambitious at the specific
10 project level.

11 But when looking at this resource, multiple objec-
12 tives or goals are necessary.

13 DR. THOMAS: I don't have any trouble with the
14 three categories and the subs, particularly. But I think
15 there's a dimension that has to be added to all three, and
16 that is the time frame in which you measure progress.

17 It seems to me that if we're looking at short-term
18 objectives, it might be different than if we're looking at
19 long-term objectives, and I think what we're doing is
20 designing projects with long-term objectives in mind and
21 expecting outputs in a relatively short period of time.

22 So definitely some of these have to be looked at

1 from a time perspective, and that's particularly true when
2 you get into environmental issues; well, all three of them
3 actually.

4 And I think we tend to be pulled toward production
5 and income-related objectives and kind of ignore the others.

6 DR. SMITH: I have read all the background docu-
7 ments and agree with much of what I've heard, but at the
8 same time it seems like to me in the usual hierarchy of
9 social and technical goals that those social goals have to
10 be established first, be they one or many, and after they're
11 rather clear, then we can talk about how the technical goals
12 and objectives can contribute to that.

13 For example, I've heard quite a bit of talk about
14 livestock production, but I also got strong indications from
15 this that there is no marketing system available. Without
16 the marketing system available to produce more livestock for
17 income is not going to contribute to that higher goal.

18 DR. ERIKSSON: So what would be some examples,
19 then, for social goals on the one hand and technical objec-
20 tives on the other?

21 DR. SMITH: Well, it's one thing, for example, to
22 talk about incomes for the poor, and I think you might take

1 one technical approach with that kind of social objective.
2 If your objective is simply nutritional levels of the poor,
3 you might choose another one. Some parts of that marketing
4 system may not have to be available.

5 But unless that's clear at the outset, I think
6 the hierarchy gets kind of messy, and we don't really know
7 where it will take us.

8 DR. HEADY: I would like to comment on those three
9 categories. The first category to me seems to be aimed at
10 the national level. You raise income and taxes and export,
11 foreign exchange, that's a country-level sort of a project.

12 And then number two is fancy words to do something
13 for the person or people on one hectare farm out there.
14 Now, it seems to me that these projects that I've looked at
15 the reviews in here have nearly all been at the number one
16 level of category here, the national level. And the real
17 problem lies with the people on the land and number two.
18 And that one hasn't been attacked very much.

19 DR. ERIKSSON: What about number three?

20 DR. HEADY: Well, number three is something we've
21 added in the last four or five years or ten years to this,
22 and environmentalism is very nice from the international

1 standpoint and perhaps from the country, but for that person
2 near poverty it doesn't mean a damn thing.

3 DR. ERIKSSON: Other people agree with that?

4 DR. RAUN: I'd have to put a footnote to it. Okay.
5 We have the small holder, the person with limited resources,
6 and the income problem. But in all of this, Harold -- I
7 shouldn't be talking to you. I'm an animal scientist. You're
8 a range scientist and ecology and all that. But may I suggest
9 that you have to take land use, land utilization, efficient
10 land utilization, sustained land utilization systems -- I
11 think in the final analysis has to be just about the first
12 consideration because it doesn't make any sense to see how it
13 is that you can raise incomes for people if they're sitting
14 out in the middle of the Sahara Desert because nothing is
15 every going to happen.

16 You have to first recognize the nature of and the
17 limitations of that resource base. So, Harold, I would
18 submit to you that I think that you first -- and to you
19 also following on your comment -- I believe that you first
20 have to understand the resource base, its nature, its con-
21 straints, and its potentials, and then you go from there.

22 DR. HEADY: But that's not in here.

1 DR. RAUN: Well, number three, I think that was the
2 intention. I believe.

3 DR. HEADY: I don't know.

4 DR. THOMAS: I think it's number three.

5 DR. RAUN: I think it's number three.

6 DR. THOMAS: It could be stated a little differently
7 perhaps.

8 DR. HEADY: Yes, if it's said a little differently,
9 I would agree with that.

10 DR. RAUN: But I would submit to you I think you
11 have to take land utilization into consideration right off.

12 DR. THOMAS: I'd like to pick up on the statement
13 that Ned made from just an ecological standpoint. If we
14 are talking about sustained systems of people and livestock
15 we have to look at the resource, and we have to manipulate
16 people and livestock to sustain the productivity of the
17 resource.

18 We don't manipulate people and livestock and ignore
19 what the impact on the resource is. At the same time I say
20 that I believe that in my studies and a lot of other studies
21 in this area that part of the process of desertification in
22 the area is geologic, and it can't be changed substantially.

1 I think man is a big accelerator of change, but in
2 some cases it doesn't matter what we do with the manipulation
3 of people and livestock. But you can't ignore that. You
4 can't ignore the fact that you've got to look at the resource
5 first, and you've got to look at the productivity of the
6 resource, and how you manage the vegetation, whether that
7 vegetation is range vegetation or cultivated land vegetation.

8 That's the source of all the productivity. It's
9 biomass, and if you want to increase the total amount of
10 biomass produced, you have to look at the resource. If you
11 want to manipulate how that biomass is diverted to the human
12 population, then you impose management strategies.

13 DR. BOX: It seems to me like this purpose could be
14 arranged a number of different ways. I'd like to think about
15 it, and after hearing this here I think it fits into this
16 pretty well as three parts, but maybe three different parts.

17 One, what can the land produce, or what is the
18 basic ecological carrying capacity of the land, what goods
19 and services can be produced there. And the second part is
20 what people want and need from the land, and that then falls
21 into their own desires. And the third part, then, is how
22 can we get what they want and need without degrading the

1 basic carrying capacity, and that gets us into the political
2 economic real world of how do you do it. And I guess that's
3 what we're here to talk about it; isn't it? How do we do it?

4 DR. THOMAS: Pose those questions again, will you?

5 DR. BOX: You really want me to do it?

6 DR. THOMAS: Yes.

7 DR. BOX: You're trying to test me to see if I can.

8 (Laughter)

9 DR. BOX: It seems to me that the first thing is
10 what can the land produce? What is the basic ecological
11 carrying capacity? And that's the sort of thing that
12 biological and physical scientists usually think they're
13 pretty good at.

14 Then, what do people want and need from the land,
15 and the third is how do we get what they want and need from
16 the land without degrading the basic carrying capacity? I
17 think this gets us into the whole entire system of rangeland
18 management, and I've been accused of thinking that the whole
19 world is a big range and everything operates on range manage-
20 ment. I think it does.

21 I think I got a little upset as I read some of
22 these things saying that Western range management had failed.

1 And I think what the problem is that you've taken too narrow
2 a slice of the range management pie. There's no rancher in
3 the West that runs his ranch with just reseeding projects,
4 or one particular set of projects. It is an integrated
5 system with an ecological and economic base.

6 DR. EVANS: Those different ranchers do it
7 differently too.

8 DR. ERIKSSON: I don't think the literature was
9 saying that Western range management failed, but what failed
10 was attempts to transfer Western range management to Sub-
11 saharan Africa.

12 DR. EVANS: If I could pick up on that point it
13 brings me directly to probably the biggest problem that I ran
14 into attempting to formulate grazing programs in Africa.
15 This was the total lack of understanding of the socio-
16 cultural relationships between those who are the herders
17 or herding tribes, those who are the landowning tribes,
18 and the cultural need, or the cultural relationship between
19 extensive livestock herding and this need to move livestock
20 over vast areas which as near as I could tell is something
21 that is entrenched over 9,000 years.

22 And when we attempt to bring modern contemporary

1 innovations to cultural relationships at this level, we have
2 often missed the mark, not because we didn't understand the
3 ecologic principles, and we may have lacked something in an
4 understanding of site potential, or site productivity, but
5 to understand the needs of a Fulani herder with several
6 thousand head of cattle, a hundred dogs and one machete,
7 and moving livestock between waterholes where they sometimes
8 were two to three days without water is something I had a
9 tremendous amount of problem dealing with.

10 When I saw some of the end-products, I could see why.
11 And so if there were one problem, not a solution but a
12 problem, it is in understanding deeply entrenched, long-
13 term social relationships between the herder and the live-
14 stock and the lands.

15 And nowhere is there an objective that brings this
16 into focus.

17 DR. ERIKSSON: When you say you saw some of the
18 end-products, you understood, what do you mean?

19 DR. EVANS: The end-products were sometimes ten to
20 12 kilometers with no vegetation between the waterhole and
21 the first grazable vegetation, the impact of several hundred-
22 thousand head of livestock moving daily into one of the

1 watering holes, whether it was the Gambian River, or whether
2 it was the upper Cassamines, or just what it was, totally
3 devoid of vegetation.

4 And then the report comes back that range manage-
5 ment failed. In my mind what failed was understanding how
6 one herder with a large number of cattle -- and I won't say
7 how many thousands because I have no idea -- could even
8 maintain those livestock on what they were grazing.

9 There were things growing out there and persisting
10 where you had eight months of drought and four months of
11 rain that I couldn't even find, but they were keeping live-
12 stock alive. So there was something inherent in the know-
13 ledge and the base understanding the culture of those herders
14 that I had no way to grasp.

15 And yet when I'm asked to sit down and develop a
16 grazing plan, there's a vast amount of cultural knowledge
17 missing in getting the job done.

18 DR. ERIKSSON: Are you suggesting that we are off-
19 base in suggesting that some of these range projects were
20 failures, or rather a different point, that we just don't
21 know enough about the traditional range management systems?

22 DR. EVANS: The traditional range systems of

Africa.

1 DR. ERIKSSON: How they operate.

2 DR. EVANS: That's correct. Yes, I feel there's a
3 a lot missing there. When we attempt to deal with people
4 whose whole culture is centered around cultivating land
5 with a short-handled hoe with a two-inch wide blade, and
6 we're used to dealing with contemporary theories of
7 ecology, and translating these facts to people whose whole
8 system and whole calendar of labor is geared completely
9 different from anything that we deal with, I find that our
10 base from which we develop our planning expertise is very
11 short, and often very shortsighted.

12 DR. ERIKSSON: Abè Waldstein.

13 MR. WALDSTEIN: Yes, I just wanted to add a
14 dimension to that. I don't think it's only understanding
15 the traditional system. It's understanding the traditional
16 system in flux. The work that I've done recently, it's
17 clear that people are seeing the ecology, that is to say
18 the carrying capacity of the Sahel as changing.

19 And they're trying to adapt their own strategies
20 to it. Again, just to talk in terms of a division between
21 cultivators and herders itself is drawing our attention
22 astray.

1 What I've been seeing in Mauritania and Chad
2 recently is people who are herders are trying to somehow
3 integrate a cultivation strategy with their herding strategy
4 for their own security. And I think just adding that extra
5 wrinkle on I think that's what we have to take account of.

6 DR. ERIKSSON: Let me introduce Allan Hoben from
7 Boston University who has just joined us. Our group is
8 complete now, and perhaps at this point try to summarize some
9 of the discussion before we move on to the next topic.

10 And perhaps, Allan, on hearing my summary, you'll
11 be motivated to make a comment or two. You usually are.

12 DR. HOBEN: I've changed.

13 DR. ERIKSSON: Oh, no, I can't believe that.

14 But I'm attracted to the formulation of Professor
15 Box with a few sort of extensions here and there to take
16 into account some of the other discussion. But to begin
17 with, the essence of what had been called in the materials
18 that went out the extensive livestock production problem on
19 rangelands is you need to look at the system of natural
20 resource use in these areas as a whole.

21 And probably to begin with, a look at the carrying
22 capacity of the land, but then to quickly look at the demands

1 that are made on that carrying capacity both by traditional
2 systems and by newly introduced systems of agriculture,
3 looking at both natural vegetation and cultivated agriculture,
4 looking at both, if you will, economic demands in the land
5 and cultural demands on the land, although it's, I think,
6 typically very difficult to separate the two. But there is
7 two different dimensions there.

8 And then thirdly, the question of how to match
9 the demands on land with the carrying capacity of the land
10 without degrading the basic capacity. Anyone care to
11 challenge, refine, add to, subtract from? Steve Berwick?

12 DR. BERWICK: Yes. I think that use of the word
13 "carrying capacity" is kind of interesting because it does
14 imply that there are other goods and services besides just
15 the livestock. That's one.

16 Secondly, in hearing about the sort of culture
17 gap in the last couple of comments, I would suggest that
18 there is also a gap in essential knowledge with regard to
19 the resource base. I mean in the readings that we were
20 issued and in the experience I have, I don't think that we
21 have a clear idea on productivity, utilization, digest-
22 ability, proper use, and all of the other things that have

1 to do more with the resource base, the non-human end of the
2 resource base.

3 And those were never mentioned in any of the
4 project reviews, and I think that your formulation of looking
5 at the rangeland as a system would certainly get at this.
6 And I think that's right on.

7 Back to that particular point, in going through
8 the litany of these project audits which was kind of an in-
9 teresting exercise, I have to say that it was pretty reveal-
10 ing. It was really very interesting.

11 They talked about why these things went belly-up
12 to a certain extent, and focused in on the management of
13 these projects certainly from the time that they were
14 formulated until the time that the audit was conducted.

15 But, gee, the targeting before the formulation
16 seemed to be eccentric or off, and I think it has to do again
17 with a look at reduced piece of that system, a reductionist
18 approach. And I think that the initial formulation was where
19 the effort might go in order to help with these things
20 rather than looking at the management of something that
21 is strange once it's out of the gate, so to speak.

22 DR. ERIKSSON: Interesting.

1 DR. THOMAS: We keep coming back to this question
2 of lack of success or low progress, and looking at reviews
3 I guess from AID standpoint that's true. But from the stand-
4 point of a range-resource oriented individual, it seems to
5 me we've made some progress in better understanding the
6 resource base.

7 Now, we hear the sociologist and anthropologist
8 say it's time we understood the people better, and we under-
9 stood systems better.

10 Now, if the first objective is to try to understand
11 the system, I think we've made some progress in this. We
12 know a lot more about those systems than we did, and that was
13 the most revealing thing to me when I went all across Sub-
14 saharan Africa was the fact that there were now in place some
15 ways in which we could find out these kinds of things, and I
16 was hoping we could build that information base.

17 You can't build that information base if you
18 terminate all the projects. Now, maybe we didn't write that
19 as a part of the project objective, but we have learned a lot.
20 And I think if the projects have been failure maybe from the
21 standpoint of increasing livestock production when maybe the
22 first step is to reduce numbers or something like that, if

1 that's the measure of progress they've been a failure, but if
2 you look at understanding the systems, we're finally getting
3 to the point where we can design a project with some economic
4 and social objectives.

5 DR. ERIKSSON: Everybody agree with that?

6 DR. HEADY: Yes, I would like to add some more to
7 it. 25 or 30 years ago in Kenya we didn't have a range
8 management department. They didn't have a range management
9 curriculum in any university. We didn't have -- they didn't
10 even know the term "range management."

11 Now, there's a new experiment station doing work
12 in range per se. Now, there's a department. There's a
13 department at the University of Nairobi, perhaps another one
14 coming, and still a diploma curriculum teaching range managers.

15 We've got a range experiment station in that
16 country, and I dare say that in 30 years this is greater
17 progress than we've made in the United States in 30 years.
18 I may be wrong on that, but I'm not so sure we aren't leaving
19 out the importance of education extension as one of the major
20 objectives here. And to me, the development of that cadre
21 of technical people in the home country has got to be a very
22 important part of every project that goes in, if we're going

1 to expect progress down the line measured in decades, not
2 necessarily a three or five year project.

3 DR. ERIKSSON: An interesting point. Tom Catterson.
4 You came in a little bit later. Tom Catterson is the chief
5 forester and environmental expert in the Technical Resources
6 Office of the African Bureau. Tom.

7 MR. CATTERSON: As I look at this question, I think
8 I have to ask myself -- the most recent sojourn I had in
9 this part of the world was in the Fifth Region of Mali where
10 we were trying to design a forestry project. And we were
11 watching people cutting down every single tree they could find
12 for animal forage because there wasn't anything else left.

13 And what strikes is we were seeing, for example,
14 Kel Kamichec which is probably as herder an oriented culture
15 as you can find anywhere in the Sahel doing gardening in some
16 of the areas now because there was nothing left else to do.
17 I mean people actually digging small shallow wells and grow-
18 ing tomatoes and peppers, and anybody that I knew said that
19 this was incredible circumstance.

20 And it seems to me that that right there points to
21 one of our essential problems with these types of programs
22 and also with forestry for that matter; that we are talking

1 as a development agency about what we think is happening in
2 areas of extensive rangelands. We are talking with a govern-
3 ment that thinks that they know what's happening, but very
4 often, as I'm sure you are all aware, that government is made
5 up of people who are as far away from the nomadic, herder
6 populations as any other people in that society.

7 In fact, you distance yourself as you move to the
8 capital whether physically or psychologically or mentally
9 you distance yourself from those people. The people out there
10 are trying to cope, as this gentleman over here made the
11 point, with changing conditions, but also with the changing
12 social conditions of a country starting to come to grips
13 with what formerly was a free-range self-regulated system.
14 And they have perceptions.

15 And I don't think we ever find out very much about
16 what they think is going on. You know, they are simply
17 trying to cope where are they going to go. We have the
18 foresters on the one hand telling them to keep out of the
19 reserve forest and to keep out of the forest areas because
20 that has some sort of a future destiny, a social good.

21 We have other people who are trying to tell them
22 what to do about the range management. I think that we've

1 got to begin anything we do with the fullest understanding or
2 what the local people think is happening, and how they might
3 come to grips with it.

4 There are some examples, I think, I was told --
5 obviously I'm not in the position, nor probably is anybody in
6 this room, to actually interview people -- I was told that in
7 the western savannah area of the Sudan people were starting
8 to come to grips with both agricultural populations meeting
9 there, transhumid and nomadic populations, on the common ground
10 of the resources allocation. That there was some understand-
11 ing that the people could say, yes, indeed, you have some
12 rights and we have some rights, and the land is only going to
13 carry so much, and how are we going to deal with those things.
14 I think that's where we're going to begin.

15 DR. ERIKSSON: That's in the western Sudan, you say?

16 MR. CATTERSON: In the Western Savannah Development
17 Cooperation which I think is a World Bank. USAID is somewhat
18 involved. There are a number of these kind of things going
19 on.

20 I think if we begin like that. I mean we as
21 technicians see the landscape. But the people are the strang-
22 est dimension of that landscape, I think you will all agree.

1 And too few people can tell us really what they're doing.
2 Too few people are willing to ride with them for the days
3 and weeks that it takes to find out. And I just want to say
4 that when you add that complication to an AID project, I think
5 you're in very serious constraints.

6 Because AID projects are largely projects set up
7 to procure the services and the commodities necessary to carry
8 out a project as designed, and it's very hard to change as
9 you go whereas these kinds of projects need a very intensive
10 kind of monitoring and evaluation dialogue effort.

11 I'm sure you all have more experience than I do
12 with AID projects, but we seem to be much more a procurement
13 agency lately, and we need to move toward the development
14 aspects of it, but we're probably not going to. So the
15 design right at the start, building in the capability to
16 sense these issues is very important.

17 DR. ERIKSSON: Thank you.

18 DR. BOX: Summarizing.

19 DR. ERIKSSON: Is this still part of the summary?
20 Okay. We need to move on to the next topic. In a sense, a
21 couple of the points raised by Mr. Catterson moved us into
22 the next topic that follows in related conditions. But go

1 ahead.

2 DR. BOX: It seems to me that one thing I picked up
3 from what he said is not only should be looking at these
4 livestock production enterprises as a system, but recognize
5 that the system is constantly changing.

6 There is no such thing as a static system, and we
7 probably ought to restrict ourselves to looking at principles
8 rather than specific things. I could take -- one of the
9 things I've played with over the years as fantasy is to take
10 range management principles and apply them to urban livestock
11 population.

12 You know there's any town in a developing country
13 whether it's Khartoum or Forteleza has the large herds of
14 goats and cows that depend on garbage and grass cuttings
15 and all sorts of other things. The principles are the same
16 as the ones that we're talking about. It's simply a matter
17 of looking at the system, and then playing with the con-
18 straints that we have to get what the people want from it.

19 DR. HOBEN: This comment is both for the first and
20 second part. But one thing I wanted to note to begin with
21 is while we're talking about a lack of success, I'm really
22 impressed at how much AID people, AID documents have learned

1 in the last decade. I think some of us began worrying about
2 livestock projects about '77 and '78. At that time there
3 seemed to be an appalling gap between bits and pieces of
4 available knowledge, whether from Harold Heady's work or
5 sociological work or anybody else's and what AID was doing.
6 And in reading over these documents, the briefing documents,
7 I was really impressed that most of the points that were
8 being raised as critique or second-thoughts at that time are
9 now incorporated into on paper AID thinking.

10 But now leading to the policy side and building on
11 the comments about how complex pastoral systems are in the
12 broader sense, it seems to me one thing we've learned is that
13 it may be a mistake to try to do complex, integrated projects
14 in pastoral livestock development, particularly if we're an
15 agency with all of the constraints that AID has.

16 And that instead what may be much, much more
17 visible now from Sandford's book and from our other experience
18 is that we need to work with host governments building those
19 institutions, building the capacity and the interest in
20 house governments to look at pastoralism and pastoral live-
21 stock as a potential resource, to deal with the kinds of
22 conflicts of interests and trade-offs that there are between

1 developing marginal lands for opportunistic cropping or
2 keeping it in livestock.

3 But I think rather than the short lumpy, \$17 million
4 project what we ought to be looking at is the kind of ongoing,
5 perhaps lower-key technical assistance and institution build-
6 ing effort which supports some of the kind of research that
7 people have been talking about.

8 But I don't think knowledge alone will help very
9 much unless there is sort of a window or door or whatever
10 in the ministries, and in some cases at a fairly high level
11 where you make an increasingly -- these newer points of
12 views increasingly known to policymakers. They're not going
13 to accept them right away like they haven't accepted other
14 changes like U.S. people don't either.

15 But you have to develop that capacity, that know-
16 ledge base, that awareness, and then, as has happened in
17 so many other areas of agricultural development in Africa,
18 I would expect with some shift in government or some new
19 personality, their new generation coming in, some of this
20 base that's been built upon will be converted into more
21 specific field-oriented activities.

22 I'm not saying that nothing should be done

1 technically at all. I do think that this policy issue
2 raises a direction where we ought to be continuing or perhaps
3 increasing our effort.

4 DR. ERIKSSON: Well, I guess I hear you say several
5 things that in view of the complexity of what we're talking
6 about and despite our rhetoric, the difficulty of AID really
7 supporting design as you go projects, or rolling design
8 projects out in the field as opposed to front-end design
9 projects, and also in view of the policy problems, some of
10 which are identified in topic two here, that a more appro-
11 priate course for AID may be to support institutions. I'm
12 not sure what institutions you're talking about; perhaps
13 universities, government range management departments, build-
14 ing them through training, supporting research both here and
15 there on these issues, and some technical assistance to those
16 institutions as opposed to projects out on the ground.

17 DR. HOBEN: Well, in terms of proportional
18 spending, yes.

19 DR. HEADY: I think that the timing has to be an
20 important element here. Most of your projects are what --
21 three to five years, something like that. It takes four to
22 eight years to train a person, and most of those four years

1 are away from the project in some other country where the
2 person is being trained. And it just doesn't make sense to
3 cut these projects off at five years. They ought to be 20
4 instead or carried on perhaps for that long and give the
5 chance to develop the people, the technical-level people in
6 a country.

7 DR. THOMAS: John, I wonder if Steve Sandford would
8 comment on this question. I know ILCA has put a lot of effort
9 into looking at systems and so on. Should we give up on the
10 big systems approach and try this tactic? What is the ILCA
11 experience?

12 DR. SANDFORD: I think I want to go along a bit with
13 what Allan Hoben has said. The difference between what we
14 know now and what we knew a decade ago is really dramatic,
15 as a matter of fact particularly on the social and economic
16 side, although there have been people saying we still don't
17 understand these societies. In many ways we understand them
18 really quite well now.

19 I don't think you can hope to design sensible
20 interventions if you don't take a systems approach. But that
21 is a somewhat different point of view from saying what does
22 an AID donor or what does a government do today.

1 I think that if it comes to trying to do everything,
2 intervene simultaneously with all parts of the system at the
3 same time, you simply give yourself a management problem.
4 I spent some time four or five years ago looking at the
5 record of World Bank livestock projects in the dryer parts
6 of Africa, and there had been an enormous inflation in the
7 number of different components per project, inflation over
8 time. And they were simply giving themselves appalling
9 management problems.

10 A man, instead of being told that he was responsi-
11 ble for drilling ten wells, was trying to run a forage plot,
12 experiment; he was trying to feed, run cooperative shops; he
13 was trying to a social engineering job in shifting land
14 tenure from one thing to another. It was just not feasible
15 projects to manage.

16 So I don't think that what Allan is saying now is
17 don't let's take a systems approach. I think he and I are
18 agreeing that, in a sense, we know a lot more about the
19 systems, and you have to know about the systems, before you
20 can intervene.

21 What he is saying is when it comes to an interven-
22 tion, make it manageable, make it something that the ordinary

1 man in the street rather than God has actually a hope of
2 implementing.

3 DR. ERIKSSON: Does that agree with what you're
4 saying?

5 DR. HOBEN: Yes, and the more you know, the more
6 you can see critical constraints or opportunities for invest-
7 ment that are more manageable and economically sounder also.

8 DR. ERIKSSON: I'd like to get some direct dis-
9 cussion of topic number two here, policy and related
10 conditions. Lack of success of livestock projects has often
11 been attributed to the failure to address the policy environ-
12 ment in which the projects have been implemented.

13 Policies dealing with the following areas have been
14 cited: land tenure, water rights, market regulation, private
15 sector investment climate, local and administrative frame
16 work for local organization and initiative, inter-country
17 relationships in the same ecological region. What are the
18 policy conditions essential for the success of extensive
19 livestock production projects?

20 One might want to modify that now to say rangeland
21 management projects although recognizing again that extensive
22 livestock production is a typical entree point that we

1 confront. Yes; Ned Raun.

2 DR. RAUN: Following on Allan's comments and
3 Heady's and others, I think this business of strengthening
4 agricultural research institutions, or building agriculture
5 research institutions, and human resource development is a
6 prime policy issue.

7 Now maybe you want to put it in some other box or
8 some other category, but I do believe it's a prime issue.
9 And I guess turning to AID, I would cite the last paper that
10 you had which deals specifically with agriculture research.
11 And I don't know what you think of that paper, your plan
12 for supporting agriculture research and faculties of agricul-
13 ture in Africa.

14 But if you subscribe to that -- if you subscribe
15 to that, then that sets forth the case here to support
16 strengthening agriculture research institutions and human
17 resource development. So I would submit to you I think that's
18 one policy.

19 There are several. Another one I would think is
20 land use, land utilization. I think that governments at the
21 policy level, if they're going to go about their business
22 responsibly, they must address land utilization.

1 DR. ERIKSSON: Now what should we, or might we,
2 or ought we as a donor do about that, that particular issue?
3 I mean you say that it's something that governments need to
4 address, and we could agree with that. But what does the
5 donor do?

6 DR. HOBEN: First, I wanted to agree that I think
7 land and pastoring water rights are the most critical. I
8 mean all those issues you've listed as policy issues have
9 been a problem, but it seems to me that the access to
10 resource rights is the key one.

11 It's come up in Somalia where I've been doing work
12 on the last couple of years on resource tenure, and one of
13 the reasons it comes up there as elsewhere is that the
14 government does not recognize pastoral rights legally at
15 all. It recognizes them de facto because of the need to
16 deal with the political realities of pastoralists who are
17 fairly well-armed and assertive.

18 In that case, one of the things the AID mission is
19 interested in doing is getting a land tenure center, but
20 getting some kind of training and technical assistance that
21 would really just begin to get people trained who will raise
22 the issue.

1 At the moment, it's really politically unacceptable
2 to raise the issue of pastoral tenures in Somalia because it's
3 talking about clans. It's talking about kinship which is
4 formally against the law.

5 So when you write a report, you have to be very
6 careful to talk about indigenous groups that don't use these
7 words. So I think that would be one, again not the only,
8 but one thing to be done.

9 DR. SANDFORD: I'd like to focus in again on land
10 tenure. I agree partly with what Allan said. One of our
11 problems with land tenure is that governments don't recognize,
12 in a sense, that there is a land tenure system already. They
13 talk about free range, or free access to the range, or open
14 ranges, and very often they're not anything of the sort.

15 That is a problem they do not recognize that there
16 is a known land tenure system, and they arbitrarily inter-
17 fere in it.

18 On the other hand, attempts -- what have appeared
19 to be sensible attempts to change the land tenure system
20 don't seem to be very successful. If you look at group ranch
21 changes in Kenya, if you look at the enormous effort with the
22 tribal grazing lands policy in Botswana, where essentially

1 people said there isn't under the present system enough
2 incentive for people to change, to invest in their land, so
3 we must now give them a system whereby those who invest can
4 capture the benefits.

5 The result of these things have not been what were
6 predicted. There were no more investments in the land after
7 this than before. So that I find myself saying two things
8 about land tenure. One is the governments think that there
9 isn't a land tenure system, and they interfere arbitrarily,
10 and it's necessary for us to pay more attention to what the
11 existing system is.

12 And secondly, that the claims made for improved
13 land tenure systems don't seem to have been so far borne out
14 by experience in Africa. And there's quite an interesting
15 paper coming out by Roy Benke who is saying, in a sense, we've
16 got it the wrong way around. Until there is resource
17 degradation, until there is over-population, land is not
18 going to be a sufficiently valuable thing for anyone to want
19 to change the tenure system.

20 That backs up a little bit what I feel is we don't
21 have enough viable, technical innovations on the range
22 management side that makes it worthwhile people disrupting

1 | the existing system and going to something new. What is it
2 | they will invest in for which we need to change the system
3 | in order that they can capture the benefits. And I think most
4 | of our range management interventions basically don't offer
5 | us big enough returns with the solitary exception of water.

6 | DR. HOBEN: May I clarify, please?

7 | DR. ERIKSSON: Yes.

8 | DR. HOBEN: I wasn't suggesting that anyone should
9 | rush in and change the rules. I completely agree with you,
10 | but the problem is to get governments to recognize that there
11 | are interest groups who have effective rights, and that
12 | giving rights over the same land or water to a cropping
13 | project or a World Bank project, as has happened in the
14 | lower Shebelle Region in Somali, where the government has
15 | said, and has got experts to say, the land is unused.

16 | It's used seasonally both for agriculture and
17 | livestock. So it's really beginning to get the awareness of
18 | the problem thought about rather than rushing into set up a
19 | new set of rules that I was advocating.

20 | DR. ERIKSSON: Stephen, I'd just like to make sure
21 | I understand your last point. You were saying that we don't
22 | have at hand the technical interventions that would

1 sufficiently, provide sufficiently more attractive or pro-
2 ductive alternatives for the use of a degrading resource to
3 make it appear worthwhile to introduce new systems of land
4 tenure?

5 DR. SANDFORD: That's right. To shift from one
6 system to the other has enormous social costs. In order to
7 make it worthwhile anyone giving their political or any other
8 kind of support to it, you have to offer them very substantial
9 rewards out of a change in tenure. And that's what I don't
10 see. What it is the rewards they will get from doing it.

11 In Botswana, the tribal grazing land policy was
12 sold on the basis that it will to a doubling of productivity
13 per hectare. This was completely fraudulent. I mustn't use
14 that word. Inadequately based claim.

15 And it hasn't happened.

16 DR. BERWICK: I've got a question. Are there
17 areas with enough losers where this sort of risk could be
18 assumed now? I mean you have to be an extremist, I take it,
19 from what I've heard. And do those areas of opportunity
20 exist?

21 DR. SANDFORD: I'm not sure I followed that. I
22 didn't quite get the question.

1 DR. BERWICK: Well, you say that there's a con-
2 siderable investment if they're going to accept an interven-
3 tion and a risk, and are there enough places, or are there
4 places where people that are in such dire straights that they
5 will accept that risk now that they're changing their live-
6 style anyhow?

7 Some of the handouts said that, for example, people
8 are becoming more sedentary because they've lost two-thirds
9 of their herds and that sort of thing.

10 DR. HEADY: Could I ask that question a little
11 different way? Isn't it more important to learn the systems,
12 to work with the systems with them rather than try to change
13 them? I wonder if we have any business trying to change.

14 DR. ERIKSSON: You mean the existing tenure systems?
15 That's somewhat different point. I think what Steve Sandford
16 was saying was --

17 DR. HEADY: I'm talking about the land tenure
18 system.

19 DR. ERIKSSON: Right. I know. Even with the
20 degradation that's going on and the worsening livelihoods of
21 people, the change in the tenure system doesn't promise
22 sufficient award to compensate for the cost, the social costs

1 of that change in the tenure system to make it seem worth-
2 while. Is that what you're saying?

3 And now Harold has raised sort of the converse.

4 DR. HEADY: The other side of it.

5 DR. ERIKSSON: Yes. Doesn't this reinforce really
6 trying to work within the context of existing tenure systems,
7 whatever they are? Gerald?

8 DR. THOMAS: I think Steve Berwick may even be
9 getting at a point here that isn't coming through. Let's go
10 ahead and assume that we do need to know more about the
11 systems, and hopefully we can work with the systems.

12 But my dad was a rancher in the United States when
13 the Taylor Grazing Act was passed. There were an awful lot
14 of people, including him, that thought the approach they were
15 taking, the seasonal transhumance grazing, mixture of sheep
16 and cattle and all these other things, which mostly were
17 leading to over-grazing, that this was a good system. And
18 why in the world did we have to go in and impose controls.

19 We had almost the same kind of a system in some
20 respects that they have in Africa where you're moving season-
21 ally and so on. Granted the resource base was different and
22 a lot of other things were different. But a major imposition

1 on the free range happened with the passage of the Taylor
2 Grazing Act. They did it with the cooperation of the ranchers
3 or at least haphazard cooperation of the ranchers, some of
4 the ranchers. A lot of them fought to the death. But it
5 took us 30, 40, 50 years to see that we had done any good.

6 And all of a sudden we saw there was a role on these
7 rangelands for things other than livestock. We understood
8 they were important to the total system in the United States.
9 We saw the value of wildlife and watershed management, and
10 we saw the value of restricted and controlled grazing.
11 But it took us -- we celebrated last year the 50th anniversary
12 of the Taylor Grazing Act, and looking back after 50 years we
13 did make progress.

14 But when we looked at that after ten years and 15
15 years and 20 years, we weren't sure that we had really made
16 any progress. And I think what Steve is after is are there
17 places where we're ready to go to some kind of controls, and
18 not just accept the fact that we have to do what the people
19 want to do and ignore the resource base.

20 And maybe there are places where we need to go to
21 a more controlled system.

22 DR. HOBEN: I think there are a few around the

1 world. Syria has got some, for example.

2 DR. ERIKSSON: Well, what about Sub-saharan Africa?
3 Any places there?

4 DR. THOMAS: I think Nigeria, northern Nigeria
5 is looking at a more controlled approach to land tenure,
6 ownership and control, but there are a lot of places that
7 are not.

8 DR. SMITH: It seems like to me the key, though,
9 in our own country on that, Jerry, was that we had an al-
10 ternative developing along.

11 DR. ERIKSSON: An alternative what?

12 DR. SMITH: An alternative.

13 DR. THOMAS: To absorb the --

14 DR. SMITH: -- the vast reduction in livestock
15 grazing that really did occur. Only in the last 15 years
16 have we started seeing the results of that reduction start
17 showing up in increases. And in so many countries I don't
18 think we've recognized that if you take the livestock away
19 from them, they don't have an alternative, and they simply
20 must have an alternative.

21 DR. THOMAS: Don't we have to go back to Ned Raun's
22 point that if they're too many people and if the population

1 is a problem, and you've got to have alternatives. We can
2 postpone maybe, but sooner or later we've got to have al-
3 ternatives to employment and economic development.

4 DR. BOX: I'd like to get back to your question of
5 what are the policy conditions essential to the success of a
6 policy? I'm not sure there are policy conditions that are
7 successful. What is important is to understand what the
8 policies are and work on what the policies are and not what
9 they should be.

10 Too often we design a project or think in terms
11 well, there should be certain kinds of land tenure and they're
12 not. I think the first step is to understand what the poli-
13 cies are, particularly for a donor such as AID with rather
14 short-term projects. And if you can accomplish something
15 with the policies as they are, go for it. If you can't,
16 keep your money in your pocket probably.

17 DR. ERIKSSON: There's an alternative. Tom
18 Catterson.

19 MR. CATTERSON: Yes. I'm having a hard time keeping
20 my mouth shut, basically because there's a lot of parallels
21 between your discussions and the types of problems we're
22 facing in the forestry world.

1 I'm sure you're all aware that we've gone through
2 ten years of trying to deal with the forestry problem in
3 Africa to provide fuel wood. You know, of course, most of
4 the fuel wood still comes off the natural forest areas.
5 In other words, while we're doing plantations, we're probably
6 still cutting natural forest areas.

7 And we've been saying in the course of the last
8 three or four years that if that's the case why aren't we
9 managing those areas because it seems to us that this is the
10 way to go. We have had some experience of late that I think
11 points to a number of lessons in this issue.

12 One is that if you want to manage the natural
13 forest area, you obviously have to have some controls. The
14 foresters of Africa are willing to impose those controls
15 unfortunately with guns and fences and by all of the
16 difficult ways.

17 What we have found out, however, though is that
18 the peasants themselves understand a lot of the dilemma. In
19 the Gessel Bodi reserve forest, 25 kilometers outside of
20 Niamey where we began some major natural forest management
21 activities we found what the alternative was.

22 We had a discussion with the local villages around

1 there about how were we going to be able to bring this
2 forest under management control, and the question of al-
3 ternatives came up because there were people who were cutting
4 wood in the forest and grazing their animals, and who were
5 going to have to take production trade-offs in order to
6 allow it to happen.

7 What we did to begin with is we set up a small
8 demonstration plot within the forest and said this is well-
9 documented what we were doing and what happened. And then we
10 brought the local villagers in and we said this is what will
11 be the results. And the results were natural revegetation,
12 a tremendous growth in grass in that area because we kept
13 fire out and we kept animals out for a period of two years,
14 grass that we could harvest by cutting.

15 We said to them, now, we'd like to do this on other
16 areas in the forest. But you people -- we can't build a
17 fence around this. It's 5,000 hectares. We can't build a
18 fence around it and make it pay because if you add the cost
19 of the fence to it, the economics of goes haywire. What can
20 we do about it? Can we get you to stay out of the forest?

21 What do you want? As a come-back, they said, well,
22 what we'd like is as you begin to develop this area that you

1 employ our young people because our young people don't have
2 any jobs, and this is the way it worked out. I mean --
3 all right -- this is one simple experiment in the equation,
4 but the question is where we're going.

5 The land tenure issue -- it was an issue of land
6 tenure. It's a national forest area that people had use,
7 traditional use rights over years that they could have imposed
8 on us. But they want a productive forest, but at the same
9 time they know they have to give something up. A very simple
10 beginning to a process there by saying, all right, what we
11 will do is in managing this forest we employ local people.
12 I don't know. There's at least one example.

13 It seems to me that if we look at the potential
14 for how people are going to be usefully employed, and the
15 whole equation there, we can find some answers.

16 DR. ERIKSSON: So you're saying controls are
17 possibly, possibly even a change in the tenure system,
18 providing you're in a situation where you can effectively
19 consult with local people, and ascertain their needs and,
20 in effect, enter into some kind of quid pro quo.

21 MR. CATTERSON: What I'm saying is if you're going
22 to ask them to change something, you've got to be able to show

1 them why, and you've got to be able to show them why on the
2 ground. I'm a little concerned about what was said at the
3 end of the last section where Mr. Sandford said we do know
4 quite a bit about the systems, and then what he and others
5 have said that we don't know enough about the land tenure
6 system, that we're too willing to jump feet-first into the
7 policy.

8 We all know well. We're talking about what USAID
9 can do. We're talking about the tendency here to jump on the
10 policy reform issue. You know policy reform is a basic tenet
11 of what we're trying to do and what we think we're trying to
12 do. Let's keep it a methodology, and let's not slip into it
13 becoming an ideology.

14 Let's base it on real facts found out. We may not
15 have to reform a policy, as Mr. Box said, if we can begin
16 with by showing. I mean that's our role as AID. We're
17 talking about an agency that's working in someone else's
18 land on someone else's problems. So we're just trying to
19 find answers. That's all we're trying to find and direct.

20 DR. HEADY: Let the policy take care of itself
21 then.

22 MR. CATTERSON: Well, 30 years we're going to need,

1 or the 40 years. The long-term issue is the most sensible
2 thing that's been said around here. I mean it is a long-
3 term issue. People are going to find this out once it begins
4 to work, but you've got to put more and more working exer-
5 cises in place.

6 DR. ERIKSSON: Allan.

7 DR. HOBEN: Words don't work very well. But a
8 word like "policy" has two rather different poles in its
9 meaning. In the one hand, it's some stuff written in a
10 book, and often what donors try to get most countries to
11 negotiate about.

12 On the other hand, there's effective policy, what
13 governments do, which may vary very much within the country
14 and from group to group, and sometimes situation to situation,
15 like whether there's a drought or not.

16 And I think we confuse each other because when we
17 say that policy is important, and that resource tenure policy
18 is particularly important, I don't think that Stephen and I
19 are advocating a sudden reform.

20 We're saying that it's important for those people
21 with power to control access to resources, to include in
22 there a number of people with some more realistic assessment

1 of the effective policy, of the actual distribution of
2 resources and access probably so that incremental changes
3 to make the situation more realistic can be made. That's
4 far different from envisaging a group of experts from Boston
5 University rushing out for six weeks on an AID contract to
6 design a new policy which I would presume would be a very
7 unwise approach.

8 DR. SANDFORD: The question you have at the end
9 here is what are the policy conditions essential for success.
10 I'm having some difficulty in looking at your list and trying
11 to weed any of them out. You know it's quite clear that
12 anything can be a stumbling block on which you fall flat on
13 your face.

14 Let me again go back to the study I did on World
15 Bank projects, and raise from some of them what were the
16 ones, the problems, which appeared to occur most often.
17 Of those World Bank projects, more than three-quarters, a
18 critical constraint on their success was said to be policy
19 and related issues. And they really fell into three
20 categories.

21 Firstly, government's commitment to project
22 success. Basically, the annual budget process. Governments

1 having signed the agreement failed to deliver the funds so
2 finance was critical. But recurrent rather than capital
3 funds.

4 DR. ERIKSSON: Being the constraint?

5 DR. SANDFORD: Yes. Secondly, staffing. There
6 simply many of the projects were conceived and planned in
7 isolation of what else might be going on, and although you
8 could find five range management people in the country to
9 implement the project when it came to implementing the
10 project they had all been assigned somewhere else. So,
11 staff capacity was another critical problem which occurred
12 time after time after time.

13 And the third one could basically be described as
14 incentives. Maybe price ratios. Maybe it's a question of
15 land tenures. But those both who were on the staff
16 implementing side and on the producer side simply didn't
17 have enough to gain out of the success of the project.

18 So that's simply an empirical way at looking at
19 what happened to the World Bank projects.

20 DR. ERIKSSON: That last one incentives might be
21 pricing policies. It might be other things, I suppose, like
22 regulation.

DR. SANDFORD: Well, it includes, you see, what

1 you call land tenure, water rights, market regulations, pri-
2 vate sector investment climate. All of these in some projects
3 are essential, and unless you want to clump them together
4 under general essential banner, there's got to be enough in
5 it for people to want to make the thing a success.

6 That's an incentive.

7 DR. ERIKSSON: How crucial is this question of
8 inter-country relationships when one is talking about Nomadic
9 herders, transhumanse. Is that something that is sort of
10 getting worse over a time, or do you see that as being less
11 of a factor, less central?

12 DR. THOMAS: It's certainly critical during
13 droughts.

14 DR. EVANS: I can't say that it's getting any
15 worse rather than it's getting any better. It's a perpetual
16 problem. Drought exacerbates it, granted. But again when
17 you have to deal with contemporary political boundaries
18 piled on top of colonial political boundaries and then mixed
19 in with a few hundred years of transmigration due to slaving
20 patterns, you sometimes come up with a group of people who
21 totally disregard boundaries at all unless they're met with
22 an armed border.

1 The results of that I think we've seen with the
2 Chad problems.

3 DR. HOBEN: Could somebody clarify what we
4 mean by a problem on this, John? For example, the Somalis
5 move back and forth in what happens to be called Ethiopia
6 to Somalia in order to survive and optimize their production
7 and security, despite the fact that those two countries are
8 at war and that many people, nationals of both countries,
9 spend part of their time with part of their families in
10 refugee camps, the Somalis have been able to reconstitute
11 their herds and move back and forth.

12 And one almost has, in that situation or one
13 like it, to see the movement as a saving grace. So obviously
14 there are problems with movements for health control and
15 so forth, but I'm a little confused what it needs to see a
16 problem.

17 It would be a bigger problem if tomorrow everybody
18 could build a fence and stop movements, according to urban
19 policymakers' biases. I think it would be a disaster.

20 DR. EVANS: One of the problems that, at least,
21 I've seen is the compounding or the doubling or maybe even
22 the tripling of the grazing pressure as herders or tribes

1 are bringing livestock into areas where they proceed to have
2 a little more availability to forage. The less controlled
3 borders, in other words.

4 You're just expanding the desertification process
5 faster because you're dealing with less -- you're dealing
6 with people who have less traditional tie to that particular
7 part of the grazing scene, and as a result they'll move in
8 quickly and then attempt to move on.

9 And the tragedy of the comments is just expanded.

10 DR. HOBEN: Well, of course, one point would be
11 that if people couldn't move they would die somewhere else.
12 So I mean the movement has a function, or obviously so that
13 the solution might be to provide better resources for the
14 people who have to move out of certain areas, rather than
15 to impose a border regulation which couldn't be enforced
16 anyway by non-Draconian methods.

17 DR. ERIKSSON: Steve Berwick.

18 DR. BERWICK: A comment and a question. The
19 comment is that sometimes in many places it's inter-country
20 is possibly not even as important as interstate or within a
21 country. Frequently, I guess the analog would be the blocks
22 put up by California to the folks coming in from Oklahoma

1 and Texas, but that actually happens elsewhere, and I think
2 that shouldn't be masked.

3 Secondly, here's a good example, I think where
4 range resource in east Africa, namely the wildlife, created
5 a lot of trouble when Tanzania closed the border with Kenya
6 because it was such an important economic asset, and all
7 the tours were going from Nairobi across the border and
8 this really gets a little bit away from livestock production,
9 but it's a rangeland resource which essentially deals with
10 this very problem.

11 That's just by way of comment. I have a question
12 on as to what are the policy conditions essential for
13 success. I'm naive about this, and I got the feeling when
14 I was reading the project audits that AID will bump into a
15 condition of credibility, I guess.

16 That is to say if these very large efforts that
17 are mounted in places like Niger and seem to generate a
18 lot of acrimony between the government of Niger and the
19 folks who are the contractors, or whoever, as I seem to get
20 out of this.

21 If that happens too often, how are you going to
22 be able to do the technology transfer, the institution
building, and some of the other policy things identified

1 if you've shot yourself in the foot and lost some credibili-
2 ty. I mean I would wonder. To put it another way, kind of
3 wash it off and put it another way, are instructors going to
4 be listened to who can't seem to produce on the projects
5 that have been mounted, in a sense.

6 I guess this is a credibility thing which I'm
7 wondering about. I don't know whether that problem exists
8 or not, but I can see the curves crossing if it happens too
9 long and too often, you know, that you might bump into that.

10 DR. ERIKSSON: Perhaps we should get some
11 reaction to that point. Joan and Larry. This is Joan
12 Atherton, PPC.

13 MS. ATHERTON: I just wanted to raise another sort
14 of problem with respect to Allan's question which is the
15 revenue problem. And it seems to me that in terms of the
16 interstate thing it's not entirely a question of degradation
17 or control, and I think Trid probably can speak to it better
18 than I, but in west Africa there is this issue of animals
19 going over the border and loss of revenue by the government
20 because they go over illegally, and in terms of trade on the
21 other side, it's just much better.

22 DR. HOBEN: Yes. But in an age of free enterprise

1 one would point out quickly that without the parallel markets
2 that happen to cross borders in West Africa most people and
3 economies would be worse off so that while it may be a revenue
4 problem, it's probably an economic asset.

5 MS. ATHERTON: Yes, I agree. And I think it goes
6 back to what the purpose is. If the government perceives the
7 purpose largely as a means of generating more revenue, then
8 it could be a problem.

9 DR. ERIKSSON: Yes, Trid.

10 DR. MUKHERJEE: Trid Mukherjee, AID. From the
11 individual farmer's point of view or the herder's point of
12 view, those boundaries don't make much sense. They don't
13 know that they exist unless there's a river that divides the
14 country like between Senegal and Mauritania, or there's a
15 mountain. And there aren't very much in the Sahel countries.
16 Maybe in southern Africa. I don't know much about southern
17 Africa. I spent seven years in West Africa.

18 So these original national boundaries -- they don't
19 know they exist which in Mali and Mauritania I could have
20 been walking which most of them do, go by bicycle, go by
21 truck, car. You don't know where Mali ended, where
22 Mauritania started. You are lost anyway. You would be
glad to find any human being.

1 Now not having these boundaries enforced probably
2 is helpful and maybe desirable from a macro point of view,
3 from the farmer's point of view between Niger and Nigeria.
4 Nigeria has a very high subsidy on fertilizer, and northern
5 Nigeria and Niger -- Nigerians buy -- Nigerians meaning
6 Niger -- Niger, Nigerian farmers are buying Nigerian --
7 am I making sense -- N-i-g-e-r is one country and Nigeria
8 is another country.

9 The farmers of Niger buy fertilizer, subsidized
10 fertilizer from Nigeria, illegally, of course, as illegal
11 imports. And it's very highly subsidized -- correct me --
12 at a very highly subsidized rate. Now Nigerians -- the
13 Niger government is mad that this is flowing into Niger.
14 But look at the benefit that the northern Nigerian consumers
15 are having. They are buying a cheap millet and sorghum
16 from Niger. Likewise, the AID projects that we have in
17 eastern Niger, the fattened livestock get a high price in
18 Niger because the northern Nigerians are buying them.

19 The Nigerians don't have that much buying power.
20 So this helps the herders and the farmers. And this is
21 true, also, if you look at the Entente concept by the
22 five countries, namely Ivory Coast, Togo, Mali, Benin, and

1 I forget the other country. There are five countries. It
2 had kind of regional trade without much boundary, without
3 much tariffs, et cetera. And Ghana because it is an English-
4 speaking country got shortchanged. It was not included.
5 And Ghana is right in the middle of this Entente foreign
6 country concept. And look at what has happened to Ghana,
7 partially because of the fact that it was eliminated from
8 the Entente, five country, kind of regional trade.

9 This is one aspect which could be discussed at
10 some point in time that the Economic Community of West
11 Africa concept, or the free trade concept among west African
12 countries, this would be very helpful for both the buying
13 countries for red meat, namely, the coastal countries, Ivory
14 Coast, Nigeria, in particular, but Liberia, Sierra Leone,
15 Ghana, who are the major buyers of red meat.

16 And the major suppliers of red meat are landlocked
17 countries, Mali, Niger, Senegal, and Mauritania in particular.
18 Now, the countries on the western coast, they are buying meat
19 at a cheaper cost from Argentina. This is the late 1970's,
20 early 1980's. They are buying red meat from Argentina,
21 Australia and New Zealand.

22 And you have Mali a surplus red meat country. And

1 it costs more to ship that red meat from Mali to Ivory Coast,
2 a distance of maybe 300, 400 miles, than it does to get the
3 meat from, like I say, New Zealand. Same thing for rice.
4 But that's another subject.

5 DR. ERIKSSON: I guess what we're hearing is that
6 inter-country problems arise, if they arise, typically be-
7 cause of differences in economic policies among the countries.
8 And that is something a donor has to be concerned about if,
9 in fact, that leads to attempts to seal off, or close,
10 borders.

11 DR. MUKHERJEE: Also the problem of transportation
12 and processing. This goes for rice, too. Malian rice
13 could be sold in Ivory Coast at a significantly cheaper price.

14 DR. HEADY: I guess we're still on this inter-
15 country relationship, but I'm confused. If I might ask a
16 question on this whole thing about policy. On the third
17 line, it says policy environment.

18 Do you really mean government approval and regula-
19 tion or lack thereof? Is that what we're talking about?
20 What do you mean by policies in this context? Do you mean
21 government regulations, or attitudes that governments take?

22 DR. ERIKSSON: No. I think the intention here is

1 really getting at formal policies. That is formal government
2 regulations.

3 DR. HEADY: That would be regulations.

4 DR. ERIKSSON: Yes. Well, including not only regu-
5 lations, but also prices, exchange rates. That is economic
6 policies.

7 DR. HEADY: Yes. These would be regulations really.

8 DR. HOBEN: Could be infrastructure development.

9 DR. ERIKSSON: Could be infrastructure. Policies
10 affecting regulations, really, I guess, and legal provisions
11 affecting access to resources. I think a great deal of the
12 discussion has been on that aspect of policy.

13 DR. HEADY: That could be a much longer list than is
14 given here, then.

15 DR. ERIKSSON: It could be. That's true. And if
16 you think there are some important ones that are missing that
17 would be good to know.

18 DR. HOBEN: There's almost a converse to that, and
19 that there is a lot of diversity. I don't know how much
20 that was talked about earlier. But it may be that the
21 necessary things in Somalia would be different from some
22 other country where you didn't have close access to

1 international markets and so forth. I think it gets back to
2 a point that Stephen has made so well in his book that while
3 we may understand the kinds of questions to ask and the
4 intricacies of these systems, that doesn't mean that they're
5 all alike.

6 So I think the question of what are the essential
7 policy conditions for livestock production projects really
8 couldn't be answered. I don't think it would be the same
9 everywhere because a policy often is there to counteract
10 or supplement some existing condition, whether it's an
11 economic or a natural one.

12 If the problem doesn't exist in one country,
13 say degradation, and does in another, then it's silly to
14 say there's a necessary policy.

15 DR. ERIKSSON: In other words, what you're saying
16 is the differences are that sharp --

17 DR. HOBEN: I think so.

18 DR. ERIKSSON: -- from one country setting to sub-
19 regional setting to another that one really can't generalize.

20 DR. HOBEN: Well, you could come up with a list of
21 things to look at and consider and say may well be important,
22 but not a cookie cutter.

1 DR. THOMAS: Isn't the important thing here really
2 as stated in one of your papers that too often a paucity
3 data, or unreliable data have led to poor project development.
4 That we haven't understood the implications of government and
5 inter-regional policy in the design of the project, and that
6 the projects were bound to fail because of certain policies
7 which we either didn't understand or were changed during
8 the process of the project.

9 So this goes back to project design, and it goes
10 back to a question that you mentioned earlier in terms of
11 AID resources. Certainly a diversion of more resources into
12 education and training and building end-country institutions
13 in this complicated area might be worth looking at.

14 That doesn't say we shouldn't have some projects.

15 DR. ERIKSSON: But the area being policy analysis.
16 Get back to that.

17 DR. THOMAS: Yes. I really think that's been a
18 lot of the problem with these projects is the three points
19 that Steve mentioned in the government's commitment to the
20 project's success, but also the project wasn't designed with
21 adequate consideration of the government's policies.

22 DR. ERIKSSON: Larry, you had wanted to make a point

1 earlier. I don't know if you still do.

2 MR. ABEL: Well, it was just a point earlier about
3 the inter-country relationship. I just wanted to say before
4 -- Joan mentioned it anyway -- Joan did say it. That it
5 was as much a matter of trade and marketing between countries
6 and through various countries like Somalia cattle now going
7 through Djibouti or Ethiopia rather than Somalia. But the
8 other thing about policies overall, the intention here was
9 really policies in general.

10 For example, AID or some other donor may initiate
11 a project with the intention of increasing of off take of
12 these type animals and increasing the income of producers.
13 But if the government's policies are such that there is not
14 an inducement there or incentive provision there at all for
15 producers to even, you know, make an effort to increase
16 production or to sell animals, I mean this also is the type
17 of policies that we were referring to in the African Bureau
18 documents.

19 DR. HEADY: I'd like to agree completely with Jerry
20 on this, and emphasize that I think that analysis of govern-
21 ment attitudes and regulations and policies, if you please,
22 has to come at the project development stage as well as the

1 project paper, the very early project proposal stages.

2 DR. HOBEN: It has to come at the pre-project.

3 DR. HEADY: Pre-project.

4 DR. HOBEN: Because as we all know, once there's any
5 investment in developing a project, it's awfully hard to stop
6 so you tend to get more and more analysis in writing, but not
7 to really get around to policy.

8 DR. ERIKSSON: And perhaps if that kind of dialogue
9 and shared understanding were to emerge at the pre-project
10 stage, the chances might be enhanced, Stephen Sandford, of
11 government commitment in terms of recurrent budget and staff-
12 ing? One would hope so.

13 DR. SANDFORD: Yes. This is rather going and
14 jumping on to four, isn't it. I mean it's raising the
15 question of to what extent we ought to be talking about
16 projects. Many of the projects which have been financed
17 have been incompatible with existing government policies,
18 our reaction tends to be, well, the policies better change
19 in order that our pet project can flow along smoothly.

20 But it's arguable that in many cases donors get
21 themselves committed to a project, and they try to get not
22 necessarily very sensible policy changes in order that their

1 project can flow along. And you know which is to change,
2 the policy or the project? And I'm coming increasing to the
3 feeling that we've overemphasized discrete projects. Not just
4 me. Lots and lots of people have been saying it. Robert
5 Chambers has been saying it for years that we've overemphasized
6 projects, and we ought to be looking much more at the whole
7 government intervention.

8 DR. ERIKSSON: Yes, Gerald.

9 DR. THOMAS: One aspect of policy is policy change.
10 And in looking at these kinds of situations, drought is a
11 frequent occurrence in the Sahel, and we seem to have a lot
12 of times designed our policies assuming that that drought
13 might not happen. But there's a change. There's a change
14 in attitudes of government. There's a change in a lot of
15 things that takes place with drought, and if you don't design
16 those policy implications when drought occurs into the
17 project, then you're not planning for the drought.

18 And so in addition to planning for the drought
19 as far as climate is concerned, and manipulations of animal,
20 we've got to plan for the drought as far as what the govern-
21 ments are going to do when this thing hits.

22 DR. ERIKSSON: That's been fairly sharp criticism

1 we've gotten in the audits of AID projects. Tom.

2 MR. CATTERSON: Just a quick comment. It seems to
3 me earlier you said, or at least Dr. Hoben proposed, and
4 there seemed to be some consensus, that as far as the
5 discussion has gone, you believe that continued emphasis on
6 institution building is important.

7 I thought the implication was somewhat that we were
8 going to -- perhaps this is the conclusions you all will make
9 tomorrow -- but that you wanted to focus on institution
10 building at the national level in the country. It seems to
11 me that following immediately on that comes the question of
12 whether we have to concern ourselves so much about policy in
13 the sense that we're looking at the need for policy reform
14 in the context of major intervention.

15 What I think we're really saying is that we ought
16 to include as we look at institution building expertise and
17 capability to address an analysis of policy to strengthen our
18 own understanding and to develop government understanding
19 of other alternatives.

20 I think particularly useful in that might be a
21 major effort to have some countries meet and understand
22 the different policies that each other tried out.

1 MR. SULLIVAN: A lot of the discussion with respect
2 to policy has been devoted to general discussion of what has
3 to be very particular situations and conditions in a variety
4 of different countries.

5 I think to that dimension two more policy issues
6 need to be added. One are the overwhelming policy loads that
7 are imposed, related to the debt load of many of these
8 countries by International Monetary Fund, and how that
9 affects what a bilateral agency can do in any area, much
10 less in range management.

11 Secondly, some of the more potent policy issues
12 that you might consider and debate are those related to AID,
13 and AID's policy. Now, we've already heard a suggestion that
14 Tom Catterson mentioned, and I think it's terrific, the idea
15 about locked-in project objectives right at the beginning
16 that seems to preclude even the idea that these are shifting
17 kinds of environments that we're dealing with out there, as
18 Thad Box brought up.

19 And secondly, the whole concept of relatively
20 small and short-term projects are not capable of addressing
21 the kinds of long-term issues that are involved at all.
22 I'm not saying that they can't be done, but as a subject of

1 discussion. Those are some issues that I feel are equally
2 important and perhaps more cogent to this group than more
3 general discussions that would cover a whole variety of
4 different countries.

5 DR. ERIKSSON: That's a very valid point on AID
6 policy. Let me try to summarize this.

7 DR. SANDFORD: John, I wonder if I can get -- I
8 want to get one into your list of policies which are essen-
9 tial, having said that you can't make finite lists. I do
10 the question of recurrent costs and budgetary planning must
11 appear in any list. That's so often the problem that the
12 project starts with lots of agreement and then falls down
13 when the Minister of Finance won't release the budget.

14 Sorry. I just wanted to get that in before you
15 summed up.

16 DR. HOBEN: Could I tag one point on that? Very
17 often the thing you really have to understand is the
18 political input of the group beneficiaries, if you want to
19 understand whether the recurrent budget that's promised will
20 be forthcoming. The point you make in your book is evident
21 in many kinds of projects.

22 DR. SANDFORD: I don't want to consist of a policy

1 of favoring poor people because very often, as we agree,
2 that's infeasible.

3 What I'm saying is that we must have a policy
4 which gives you some security that the amount which is
5 agreed will, in fact, be paid. Now you mustn't bid the
6 amount up to unrealistic levels, but if a country has a
7 sensible financial policy, sensible planning of its recurrent
8 financial expenditure is absolutely essential policy back-
9 ground.

10 DR. HOBEN: I agree. I was just adding that as
11 in Kenya, decentralization budgeting didn't get very far
12 until Moi came in and for various reasons wasn't so eager
13 to have all the goodies going to Kikuyu districts. One
14 might suspect in analyzing the probability of recurrent
15 costs being forthcoming during and after life of project,
16 one might look at the way that the particular ethnic groups
17 or regional groups are tied in, both in terms of representa-
18 tion, economic significance, and ability to make trouble and
19 so forth.

20 DR. ERIKSSON: Well, I think we talked about two
21 kinds of -- broad kinds of policy considerations that do
22 seem to cut across country experiences. One is rights to

1 rights to resources, whether that be land, pasture or water.
2 And in fact, there are typically rights allocation systems,
3 or tenure systems, de facto even though a country may not
4 recognize them legally or de jure, and that needs to be part
5 of increased understanding and dialogue with the country.

6 On the other hand, the probability of getting a
7 significant change, particularly of land tenure rights, or
8 perhaps water rights -- you'd extend that to water rights --
9 does not look very likely in circumstances where there is
10 resource degradation, and it's not obvious that there will
11 be sufficient increase and rewards accompanying the change
12 in the land tenure or rights tenure system to compensate
13 for the social and political costs of the change in the
14 land tenure system.

15 The other broad category of policy issues that
16 seems to have come through is, in effect, implementation
17 policy. That is the government carrying through with respect
18 to recurrent cost refinancing particularly and staffing for
19 project interventions, and providing the necessary incentives
20 to the economic actors to accomplish project objectives.

21 There seem to be a consensus in the group that
22 more effective address of policy issues on the part of AID

1 required attention to institution building and research in
2 this area, and particularly strengthening local policy
3 analysis capacity through support of training and research.
4 That was perhaps a more solid way of getting policy change
5 than attempting to impose specific policy changes.

6 And in the absence of getting broad policy change
7 that the country must have a sense of ownership itself for,
8 we might better look at what we can do through project in-
9 terventions within the constraints of existing policy
10 environments. So that we not only need to enhance our own
11 understanding of policies as well as increase understanding
12 of policy environments and implications on the part of the
13 host country counterparts, and enhance their capabilities
14 to analyze policies and the implications of policy changes.
15 It's rather a longwinded summary, but perhaps covered the
16 essential points.

17 Allan?

18 DR. HOBEN: To clarify one point, on the question
19 of whether land tenure policies or resource tenure policies
20 should be changed, I want to distinguish the kind of change
21 that Stephen was talking about which is difficult, expensive
22 and so forth from the kind of change where what you're doing

1 is recognizing an existing situation with legal or administra-
2 tive practice because the current situation often leads to
3 a lot of uncertainty about what a particular pastoral group
4 can and cannot do, how the land may be allocated to another
5 agency, another project, probably exacerbates the whole
6 question of how well resources are used rather than the
7 opposite.

8 But the kind of change that are institution build-
9 ing and policy analysis that leads to more realistic recogni-
10 tion in a formal government practice. Whether it's law or
11 administrative practice is a complex issue I'd rather not
12 get into. I think that kind of change is desirable. Expect-
13 ing a radical reform that restructures people's relationships
14 to resources is not very feasible and perhaps not even desir-
15 able given what we know.

16 DR. SANDFORD: It's the length of time, isn't it,
17 before the reforms, these radical reforms have any payoff.
18 I mean they may have a payoff in the end, but people expect
19 something quick, and it doesn't happen.

20 DR. HOBEN: There's already been a radical reform
21 is my point. Most governments by saying the government owns
22 the land and cultivation is evidence of some kind of use

1 rights, but pastoral use is not evidence. It does not give
2 you a claim. That's a reform that's been made in most of
3 these countries, and it's one that leads to many problems.

4 DR. ERIKSSON: Now, you're contrasting that with
5 enhancing policy analysis capability leading to a more realis-
6 tic assessment of the policy environment and what might be
7 done in a more incremental way, or I'm not sure where that is
8 leading. Could you be a little bit more concrete?

9 DR. HOBEN: Yes. If you find through your analysis
10 or if more importantly if the Africans involved -- if they
11 discover that, in fact, there are certain ways that access
12 to pasture and water are regulated then you begin to work
13 in that particular situation towards probably incremental
14 changes which would strengthen the tendencies that seem to --

15 DR. ERIKSSON: Of the existing system, yes.

16 DR. HOBEN: Well, I think anything you do always
17 acts on an existing system. You try to do it in a way that's
18 understood and realistic.

19 DR. ERIKSSON: Right. But I think there is sort of
20 a fundamental point underneath this. It reminds me of my
21 reading of the philosophy of the social sciences as an under-
22 graduate. Carl Poplar talked about the feasibility of what

1 he called incremental social engineering as opposed to cosmic
2 changes, bringing on the new grand design and the inherent
3 complexity of that as well as the tremendous social costs
4 of the latter.

5 Okay. On those airy thoughts perhaps we should
6 call for a break, and having not heard any word to the con-
7 trary, and the question was in doubt earlier this morning
8 -- I've got my fingers crossed that we'll have a coffee
9 trolley. Ah, fantastic.

10 (Whereupon, a short recess was taken.)

11 DR. ERIKSSON: We have just a little bit short
12 of an hour now for the next topic which has already come up
13 in an interesting way. Let me introduce Dr. Nyle Brady,
14 Senior Assistant Administrator for the Bureau of Science
15 and Technology who invited you all here. Nyle, I think you
16 probably know most of the people around the table here. But
17 Allan Hoben, Professor of Anthropology, Boston University;
18 Gerald Thomas, New Mexico -- you know; Dixie Smith, Forest
19 Service, Rocky Mountain Station, Ft. Collins; Thad Box,
20 Utah State University; A.J. Dye, OICD/USDA; Steve Berwick,
21 Institute for International Environment and Development;
22 Ned Raun, Winrock; Harold Heady, University of California;

1 Stephen Sandford, ILCA; and Gary Evans, ARS, Agriculture
2 Research Service.

3 We are just going to begin discussion of the techni-
4 cal intervention issue, and Stephen Sandford, I thought, made
5 the interesting point that the previous discussion on policy
6 that although access to resources including land and water
7 is a very important consideration, often fundamental change,
8 say, in land tenure policy is not seen as worth the costs of
9 such a change given the existing resource situation and given
10 the potential rewards from a change, given existing technolo-
11 gies and technical interventions. So that the next issue,
12 then, is related in that sense by indicating that we have
13 seen a general failure of most technical interventions in
14 the past including rotational grazing, range reseeding,
15 forcible destocking, fencing, water points development,
16 feed lots, massive inoculation campaigns, introduction of
17 new breeds, artificial insemination breeding programs, and
18 emphasis on beef production.

19 What innovative technical interventions can be
20 suggested to achieve the purposes agreed upon in our previous
21 discussion? What are the operational implications for donor
22 interventions? Of course, we need to broaden this, the

1 formulation of this point, just as we broaden our discussion
2 when we were talking about purposes. We spoke about the need
3 to look at these dry land resources, essentially arid zones
4 where we find extensive livestock production projects. We
5 need to broaden the discussion to look at this natural re-
6 source in systems terms, and in terms of alternative approaches
7 recognizing that you find often shifting back and forth be-
8 tween utilizing natural vegetation and cultivated crops,
9 between extensive agriculture and intensive agriculture or
10 rather livestock production and even utilization of natural
11 animal life, wildlife as well as natural vegetation.

12 So that the technical interventions topic here
13 might usefully be broadened beyond just livestock although,
14 again, as I indicated as a donor agency we are often first
15 confronted by this problem through the livestock activity,
16 the livestock intervention.

17 DR. BOX: John, I think one of the mistakes we make
18 both here and abroad is to expect that there is a technical
19 intervention that you can jump in and make big changes with
20 in any problem.

21 These things that you have listed here you're
22 calling technical interventions are really tools in the range

1 manager's bag of tools, and he may choose to apply to all of
2 them or none of them in a particular system. And if we go
3 back to what we said earlier, looking at the production system
4 and the various tools that he has, not necessarily technical
5 intervention, they may be timed over a period of several
6 decades. Some may never be used. All of them may be used
7 at any one time.

8 But it seems to me that society wants some wonder-
9 grass that will make the world a better place for all sorts of
10 animals including wildlife, or it wants a particular technical
11 intervention that you can go in and zap all the bad things and
12 make all the good things better. And I don't think there is
13 one either in livestock productions or any other thing.

14 We're looking at a system, and we have to work with
15 all the tools in our toolbag.

16 DR. ERIKSSON: Well, that certainly is a very basic
17 point that one should not be looking for one particular tool
18 or instrument, but is probably looking for a range of tools.

19 That certainly wasn't implied by -- although it
20 could be read that way, it wasn't. Focusing on a single inter-
21 vention or tool was not implied by this point. Gerald.

22 DR. THOMAS: I think the other statement -- I

1 think Box's statement that these are all tools and should be
2 available at the appropriate time to use, if applicable.
3 And the second point is about these kinds of range management
4 tools is that you have to design and use these when drought
5 has an important factor in the complex.

6 If you try to do these things without considering
7 the drought as a normal and periodic occurrence, then it's
8 not going to work, and it almost becomes so important that
9 planning for drought might be one of the major, rather than
10 one of the incidental points in designing a project.

11 DR. SMITH: A point of clarification. Is the
12 meaning here that the technology failed, and that it didn't
13 perform as expected, or do you mean by failure that it was
14 not adopted by the recipient country and the population?

15 DR. ERIKSSON: Well, I suspect it's been both.

16 DR. SMITH: Both.

17 DR. ERIKSSON: But perhaps some of my AID colleagues
18 would want to elaborate on that. Joan, I see you shaking your
19 head.

20 DR. SMITH: There's a big difference.

21 MS. ATHERTON: No, I agree there's a difference,
22 but I think it is both, that the perceptions both are true.

1 DR. HOBEN: But not equally on all points.

2 MS. ATHERTON: No. There's tremendous variation.

3 DR. THOMAS: But you're not saying there's not a
4 place for some of these technical innovations, reseed-
5 ing, for example?

6 MS. ATHERTON: No. The question is that the selec-
7 tion made of matching intervention to environment has been
8 pretty bad.

9 DR. THOMAS: Take the word "rotation grazing."
10 Well, that means 150 different things to different people.
11 And the system in place is a form of rotation grazing.

12 DR. SANDFORD: I want to quarrel with the remark
13 "we've seen a general failure of most technical interventions."
14 If you look at what's actually been happening with livestock
15 production in Africa over the last 20 years, okay, it hasn't
16 kept up with economic demand; it hasn't kept up with popula-
17 tion growth.

18 But on the other hand, it's been positive. There
19 have been increases in output, and as a matter of fact, the
20 increases of output in livestock are greater than increases
21 in output in grain production.

22 It hasn't been all that much of a failure. And what

1 has been the technical basis for the increases that have come
2 about? I think it's massive inoculation campaigns and water
3 points.

4 There is very little change in yield per animal.
5 There's been a large increase in livestock numbers with a
6 concomitant increase in output and the things that have made
7 it have possible. There have been massive inoculation
8 campaigns and water points.

9 Now, I'm not saying we can go on doing that. It
10 seems to me that what we're now seeing is an end to the phase
11 in which those particular technical interventions were any
12 use to us.

13 Breeding programs, introduction of new breeds --
14 probably not in the dryer end of the spectrum, though it's
15 been highly successful in some of the dairy projects in the
16 upper end of the ecological spectrum.

17 I'm afraid I'm going to disagree with Thad Box, I
18 think, and say I think as far as the range management inter-
19 ventions are concerned, on the whole they haven't offered us
20 very much. Indeed, if you ask the range managers if the
21 system they recommend were implemented what kind of levels
22 of increase in productivity would they be talking about.

1 On the whole, their estimates are pretty cautious,
2 20 percent, something of this order. And indeed, the evidence
3 is rather the other way around. The package being proposed
4 in Botswana as the new range management package actually
5 leads to a halving of the level of output compared to the
6 traditional system.

7 This is the level of output per hectare. But some
8 technical interventions have worked, and they've been quite
9 successful.

10 DR. ERIKSSON: Yes, interesting point. Steve
11 Berwick.

12 DR. BERWICK: Would you say that given there have
13 been such successes that the failures would lie, I guess, in
14 the continued downward trends in the resource base? That is
15 the productivity and constitution of vegetation? Would that
16 be fair to say, or is that not so?

17 DR. ERIKSSON: Where are the failures is what you're
18 asking.

19 DR. BERWICK: That's right. And I'm wondering
20 though productivity may go up in terms of secondary productivi-
21 ty I'm wondering whether the condition and trend of the range-
22 land resource itself is mirroring that?

1 DR. THOMAS: What you're really saying is how do
2 you measure success or failure. Now, if you can sustain and
3 stabilize the resource base, and sustain the production over
4 a long period of time even though you have reduced production
5 level in a short period of time, maybe that's a success if
6 you're looking at resource base.

7 Now, if you're just looking at economic outputs,
8 or perhaps social outputs, and ignoring the resource base,
9 you have a different measure.

10 DR. ERIKSSON: Larry Abel.

11 MR. ABEL: I would say that by and large that over
12 a period of years these things, in general, have all been
13 looked at as failures, and I think that they are failures.
14 Like one thing that we certainly can do is put in water
15 development, watering points, but if ten years later there
16 is no facilities for maintaining a reservoir, there's no
17 facilities for keeping a pump and an engine running, or
18 there has not been a system set up for that water point develop-
19 ment that's been put in there in conjunction with very sound
20 grazing management plans, then I think over a longer period
21 that is a failure.

22 And I think the general point here is that by and

1 large, these have all been recognized as failed interventio
2 or incorrect interventions.

3 DR. ERIKSSON: Allan Hoben.

4 DR. HOBEN: I think it's important, though, as I
5 think Stephen was doing, to separate the technical interven-
6 tions from technical interventions that happen to have been
7 an AID project or a Bank project.

8 And I wanted to cite one case. Again, in Somalia,
9 between 1955 and about 1975, more than 20,000 cement-lined
10 water tanks to catch seasonal runoff were constructed by
11 individual and family groups of Somalis using money partly
12 from livestock sales and partly from remittance money they
13 got by working in Saudi Arabia and other states over there.

14 This was a purely private initiative. These tanks
15 were located in such a way that they were very similar to the
16 shallow, hand-dug wells that had been used all along to ex-
17 tend the grazing period after the rain stopped, when you have
18 the pasture but not any available water.

19 So these tanks enabled the people to keep livestock
20 in that area. And at the same time -- and maybe Stephen
21 knows the numbers better -- but I know that the exported
22 livestock has gone up many-fold in Somalia over -- well, over

1 the whole century, but particularly since the rise of oil
2 prices, and the increased wealth, and the better access to
3 better markets. So clearly, there are things that can be done
4 and are done that raise the livestock productivity and mar-
5 ket.

6 On the environmental question, I would really like
7 to hear Harold Heady say something. I know, again, in Somalia
8 that there was a conception stated in all the project papers
9 in the early '70's in the World Bank and AID, central range-
10 lands and earlier the northern rangelands and again in the
11 bi-region project which has some pastoral people involved,
12 there was a statement that there was massive degradation
13 because of increasing animal and human population.

14 As far as they know, the research carried out by
15 the central rangelands has not borne out -- has not shown
16 one way or the other, but certainly hasn't shown massive
17 degradation, definitely hot-spot degradation. But I would
18 be interested in Harold's view, which I know is much better
19 than mine on this topic.

20 DR. HEADY: Yes, I agree with what you're saying
21 here. The ranches, group ranches in Kenya, for example, on
22 the good part of the weather cycle, they are as in good shape

1 as they've ever been. And I've had a chance to look at them
2 occasionally over about a 25-year period, and without measure-
3 ments I would agree with Allan that the livestock are better.
4 They're a better type 25 years, just recently now, than they
5 were in the late '50's.

6 And I don't see much difference in the grassland
7 although there is a tremendous up and down in it, and I've
8 had one Ph.D. student at least on the grassland. But I,
9 Mr. Chairman, environmental variation from one spot to another
10 from one year to another -- Jerry was talking about the
11 drought -- makes us in the U.S. in range tailor every one of
12 those things that you've got listed there and all the rest of
13 them differently to different spots and to different years.

14 Well, that is true in Africa or anywhere else. In
15 addition, we don't have the problem in the U.S. that you have
16 in Africa of scale. To me, you need to tailor these items
17 to the small farm, the small land holding, which we haven't
18 really done, and that makes, I think, makes for some of the
19 reasons that you're seeing failures.

20 That's tailoring or doing whatever seems feasible
21 to make those practices fit the size of the farm. It's a
22 new problem that we haven't had so greatly in the U.S. as you

1 do in Africa.

2 DR. EVANS: One of the things that comes to mind
3 quite quickly if you were to ask -- I don't know if it's a
4 technological intervention or just what -- but adequate
5 resource inventory which gets us right back to one of our
6 earlier discussion points about knowing and understanding
7 the potential capability of the grazing lands. When you
8 first start working in many of these areas, you find that a
9 clear understanding of what is available, what the potential
10 for production of the area totally lacking. *Hyperenia*
11 *ruffa* which commonly acknowledged throughout much of the
12 sub-Saharan regions, one of the more important forage
13 grasses, also happens to be one of the most important thatch-
14 ing grasses.

15 And when you come in with this massive recommenda-
16 tion for improving the quality of the forage, and will use
17 *hyperenia ruffa*, and all of the villages just sit down and
18 say that's great, we need more thatching grass, that conflicts
19 again with what can a site -- in generic terms, what is the
20 capability of the base resource that we're working with.

21 And where is the adequate compilation of how this
22 can then be utilized by livestock. It does not exist, and I

1 would say that has to be in here as intervention before you
2 start talking about what you bring in to reseed the area
3 with, where your water points are located.

4 Probably more disasters have been created by impro-
5 perly locating water points than in any other way, whether
6 the water point works or not.

7 DR. RAUN: I have a question for Larry Abel. Would
8 you have any statement to make on the impact that these live-
9 stock projects that have been mentioned here this morning --
10 would you care to comment on the impact that they have had
11 on building technology programs or however you want to put
12 it, and in building people, training people? Have they have
13 any impact along those lines?

14 DR. ERIKSSON: Institutional development?

15 DR. RAUN: That's right, and I refer then specifical-
16 ly to your paper that you have put together here dated May
17 '85, looking at it.

18 DR. ABEL: I'd like to say something. And then I
19 guess Wilbur would like to say something. But I think that
20 there has been an impact. It's been over a period of many
21 years. I think one of our big problems is that we try to
22 get impacts taking place in much too short a time frame.

1 That was one of the points made earlier this morning.

2 Stephen said that increased production, you know,
3 improvements have taken place. I think that that's true,
4 but AID, and I suppose other donors, too, are -- you know, a
5 big part of our concern, and it's not just my concern, it's
6 of the agency, and it's of mission directors who are thinking
7 or contemplating coming up with livestock projects is that
8 the impression, or the attitude, is so unfavorable toward
9 them. And I think that somebody said it exactly this
10 morning that it's because we try to look at these things in
11 too short a time frame.

12 Certainly I think training has been very effective
13 in some countries, but again it depends on the situation
14 that those trained people go back into. Like in Kenya,
15 if you go back to work under a particular head of range
16 management, for example, that may stymie the capabilities or
17 good intentions of people that have been off on training
18 programs. That's going to have a negative effect for some
19 time, too.

20 Some of those trainees have gone to work for --
21 perhaps some of them are contributing more even than if
22 they had gone directly back into the project. Probably

1 some of them are working for Kabako (phonetic). I don't
2 know. But if you look at these things in 30, 40, 50 year
3 time frame, I'm sure that you can probably -- you know --
4 you'd be sure to see some, more improvement than if you're
5 looking at things in a five to ten year time frame.

6 DR. THOMAS: Yes. Even in the short term we've
7 seen some fairly notable improvements in livestock projects
8 that we've financed in West Africa, notably trained personnel
9 coming back to the project, and are coming back to the
10 government, or coming back to some of the service industries
11 within the country.

12 That was noted this morning, the reason for some
13 of the failures. And I think in the next few years, we'll
14 see that impact just a little bit clearer than what it is
15 now.

16 Another area, technical area, the health interven-
17 tions, as we just noted, have shown some sizable impact.
18 Now, the sustainability certainly is left in doubt. We have
19 to work a little bit more in that area getting the govern-
20 ments and getting the private sector agencies involved in
21 sustaining technical intervention once they are introduced
22 into these projects.

1 Another area that I think that we've had a large
2 amount of impact in just a short time frame that we've been
3 operating is the policy dialogue. That was covered adequately
4 this morning.

5 We think the livestock projects offer the forum for
6 dialoging with the government on some of those policies that
7 they will have to improve upon. Let me just cite one example.
8 Across border trade issue with Nigeria and Niger that Trid
9 Mukherjee covered this morning was the focus of the design
10 of the major livestock project in Niger that looked at not
11 only increasing productivity of livestock on the ranges, but
12 an accompanying marketing system basically toward Nigeria.

13 So I think we made sizable progress in that regard.
14 It's been slow, but I think the point must be made that any
15 livestock and range intervention is a long-term one. That
16 we cannot avoid.

17 DR. ERIKSSON: Jerry.

18 DR. THOMAS: John, I still have to go back to
19 Thad's earlier comment. I just don't like the word "technical
20 interventions" in talking about these various techniques for
21 managing the resource and looking at systems.

22 If you look at these individually, and I know you

1 didn't intend this -- you said you didn't intend it -- but
2 the way it's stated, well, they are practicing rotation
3 grazing. If the question is should you modify that or how
4 should you modify it? We've done some water point develop-
5 ment. Which ones were appropriate? Which ones were inappro-
6 priate?

7 Range reseeding -- there's a place for range re-
8 seeding under certain circumstances. Destocking -- yes,
9 they should destock part of it. Maybe there's areas that
10 could be fenced. They'll have to be fenced, particularly if
11 you incorporate some forestry or woodlot management, or
12 perhaps.

13 So that the whole approach -- and if livestock
14 projects have been a failure, then you don't blanketly
15 condemn all of the techniques you used in the range manage-
16 ment bag of tricks. You just have to ask the question which
17 ones were appropriate and what combination, and certainly
18 the extremes have never worked, even in the United States,
19 except for Allan Savory's system, and he'll brag about that
20 all over the world.

21 DR. ERIKSSON: It seems to me you're making several
22 points that it's a question of whether they were appropriate.

1 applied, and then recognizing that within each of these
2 interventions that are identified here you have a range
3 of specific interventions. And that one might be appropriate
4 in one environment and would not be in another.

5 DR. HEADY: I think modification, the word
6 "modification" has to come into these. They have to be
7 modified to fit the situations, and I don't feel that they've
8 been adequately modified.

9 DR. ERIKSSON: Abe Waldstein.

10 MR. WALDSTEIN: Yes. Then the question then be-
11 comes -- taking off from your last point -- looking as you're
12 designing a project, or planning a project, what is the
13 methodology for determining what is going to be appropriate
14 in those circumstances.

15 A couple of factors that I would suggest are where
16 do the incentives lie for the beneficiaries, and the next
17 question after that is sort of, well, what is happening in
18 local history, in a sense.

19 In other words, it comes back, again, to the change
20 question. How are people evaluating the resources at their
21 disposal, and how they have to juggle those resources to
22 maximize their security.

1 DR. SMITH: I think part of the background and
2 the reason for the differences in interpretations of whether
3 interventions have been successful or not stems right back
4 to the first point of the discussion this morning that it's
5 a reflection of lack of a consensus on what the objectives
6 were.

7 We're all coming from different interpretations
8 of those, and some of the examples listed are not complement-
9 ary. It's one thing to say they fail in producing an income.
10 It's another to say they fail in conservation of the resource.
11 We're all using different criteria.

12 MR. CATTERSON: It seems to me -- I don't know
13 what exactly you think you're going to do. If all these
14 things are failures, I don't know what's left. My feeling
15 is what is intended to be said here is that the application
16 of these technologies has essentially been a failure. God
17 forbid that we give everything up.

18 And it seems to me that what we're saying, then, is
19 that the direction we're moving is is that we need more
20 perhaps work on the pilot demonstration level in order to put
21 these things in place in local circumstances. Carrying on
22 with the sequence of where you're going on this, we need

1 to be concerned about the beneficiaries is certainly true.
2 But maybe the only way to see how the beneficiaries are going
3 to react to it is by having a fairly large demonstration of
4 some technology in place working that people can understand,
5 again, focusing on the fact that our role here today is to
6 help this agency find its place in range management.

7 Thank you.

8 DR. ERIKSSON: Gary?

9 DR. EVANS: This gets us right back to Dr. Heady's
10 earlier comment that probably two areas that can be strength-
11 ened within the range management area in most countries is
12 that of extension training of the local capability of people
13 as well as the academic training program.

14 I'm not familiar enough with the entire of Africa,
15 but there must only be what -- two or three -- academic
16 programs and universities that can train range-related
17 managers. When you look at the resource necessary, or
18 resource available, perhaps even more agriculture, food
19 crop production, range management training programs would be
20 quite necessary.

21 Extension is probably one of the largest areas that
22 AID can get into fairly easily. This goes along with

1 discussion of demonstration areas rather than the massive
2 range management innovation programs that pick up a lot of
3 these kinds of management tools that you mentioned.

4 Here the emphasis should be on the end-country training.

5 Allow those people then to develop grazing systems that
6 fit the local culture and the local traditions.

7 I think if you look at range management as it's
8 developed in the United States, there has been a lot of this.
9 The most successful systems, regardless of what name you tag
10 to them, are systems that have tended to evolve between the
11 people that know the country best, and have a desire to
12 sustain the yield of that area, and the kinds of livestock
13 that are used there.

14 DR. ERIKSSON: One thing I haven't heard really
15 mentioned this morning is research technology generation.
16 To what extent are we facing a problem here? We face in
17 other parts of agriculture, certainly in sub-Saharan Africa,
18 that there hasn't been sufficient attention paid to improved
19 technology suitable for African conditions.

20 DR. BRADY: I was going to make the comment maybe in
21 a little different way. I don't think there's any question
22 but what throughout Africa there is need for better trained

1 people to work in the extension services, but there has been
2 one sort of common statement -- what am I going to extend in
3 terms of a new system or a better system or improvement in
4 the current system, which does relate to research of a sort.
5 It relates to the system.

6 And I've sort of been assuming that in many cases
7 we don't know what kind of modifications there ought to be,
8 and we have tended to jump in and say let's go with something,
9 and see if we can't prove in five years time, three years
10 time, that this is the way you move. The question is do we
11 know what to tell them to do, even if they were to do it,
12 even if we knew their system. Do we actually know the kinds
13 of modifications that ought to be made?

14 DR. ERIKSSON: Stephen Sandford.

15 DR. SANDFORD: There's been a recent review by
16 Lovell Jarvis of World Bank livestock projects, both worldwide
17 and in Africa, and a major finding coming out of his review
18 of the on-the-whole unsuccessful record is the lack of a
19 adequate technical basis for the investments made.

20 One of the things that struck me when I did a
21 similar exercise five years ago on World Bank livestock
22 projects in the dryer areas was the discrepancy between in

1 the project documents, the enormous amount of attention given
2 by the veterinarians to the basis of their technical recom-
3 mendations. They really worked out, and each project docu-
4 ment had a great large appendix about whether it would work,
5 and the very small amount of attention given in this to
6 what I describe as range management interventions.

7 I think on the range side we are particularly short
8 of adequate technical base for changing. I'd like to come
9 back a bit to Thad Box who said, you know you mustn't just
10 look at one of these tools. You have to put them all to-
11 gether and have the right package for the right place, and
12 say if you don't put in fertilizers into the African range-
13 lands, what, in fact, is your scope for increasing primary
14 productivity.

15 If you look at work done by IRRI, work done by
16 CYMMIT on the grain crops, we're talking about increases in
17 yields per hectare of the order of three, four, five with the
18 kind of techniques they're talking about.

19 Now, leaving fertilizer aside, and looking at some
20 of these, as it were, traditional tools, what kind of order
21 of magnitude of increases in primary productivity could we
22 talk about with the range things.

1 You see there was that work done by the Dutch
2 group in Mali --

3 DR. ERIKSSON: Devitt?

4 DR. SANDFORD: That's right. What they came up
5 very much with is it's plant nutrients which is the critical
6 constraint. Unless you're prepared -- unless you can, and
7 that means that the price ratio is different between
8 fertilizer and output, do something about that, basically
9 the present system in Mali which is what they were looking
10 at is running just about at the optimum, the maximum.

11 I'd like to talk a little bit about some of the
12 work we're doing in ILCA at the moment. What scope have we
13 for increasing productivity? You can look at basically the
14 primary productivity of the edible vegetation per hectare,
15 or you can look at the efficiency with which animals are
16 using that.

17 And on the whole, our present aptitude in ILCA
18 on primary productivity in range areas is rather pessimistic.
19 We don't seem to have much that we think that we can do to
20 make big quantum jumps. We've got something out of the Mali
21 Sahelian range, but not very big.

22 But what we feel there is considerable scope for

1 is improving the efficiency with which animals use the
2 existing feed resources, and as far as the range area is
3 concerned, our present way of thinking is that it's in terms
4 of improving calf growth rates. That the present essentially
5 starvation of the calves is depressing their performance
6 throughout the rest of their lives, and if we could do some-
7 thing about improving the nutrition of the calves in that
8 first year, we could get them off and -- either off the
9 rangelands as beef or into production in a very much shorter
10 time, and this would essentially change, radically change
11 the conversion rates between feed and output over the whole
12 system.

13 So that we're rather looking at changes in the
14 efficiency of conversion of feedstocks rather than increasing
15 the amount of feedstock in the actual range, in the range
16 areas.

17 Now, I don't know if we're right, but this is
18 what our experience has been over the last three or four
19 years. We haven't found much scope for radically increasing
20 primary productivity.

21 DR. ERJKSSON: Through either fertilization or --

22 DR. SANDFORD: Well, the fertilizer doesn't work.

1 And we haven't done much fertilization. Devitt and Co. did
2 it in Mali, and they got some nice relationships, their final
3 chapter says. But you can't do it with current prices. We've
4 never checked back at the current prices. One of these days
5 I want to do it to make sure they're quite right you can't
6 do it with current prices. They probably are.

7 DR. BOX: Stephen, I think you're right. If you
8 take a given climatic conditions and soils anywhere in the
9 world, there is a sort of basic rate of primary productivity
10 that you're going to get from that unless you change one or
11 the other of it.

12 This may be fairly low in dry areas, as you know,
13 and I don't think we're looking at any three, four, or five
14 times increase in production anywhere in rangelands. There
15 are some things, though, that can be done.

16 If you look at -- given a given rate of primary
17 productivity on a piece of land, and a lot of the Biome
18 Studies a few years ago showed that worldwide, it may come
19 in unpalatable weeds. It may come in annuals. It may come
20 in forest or something else, but you get just about the
21 same amount of primary productivity.

22 So really what we're looking at is manipulating

1 the kinds of vegetation out there and the kinds of animals
2 eating that vegetation to get whatever people want from the
3 land. Now, a lot of -- as I read these documents and any
4 group that I get together like this, we seem to keep drifting
5 back to cattle all the time, or we talk about beef production.

6 There's a lot of the world where cattle probably
7 shouldn't be raised at all. And that some other kind of
8 animal, and you can increase. Some of ILCA's own data there
9 show that you get a lot more productivity from sheep and
10 goats and camels perhaps than in cattle.

11 So I don't think we're looking at changing productivi
12 ty two or three or four or five times on rangelands. We're
13 talking about making it more efficient and a more stable
14 system.

15 DR. ERIKSSON: What about grasses? I haven't heard
16 that mentioned. Are you implicitly saying that you don't
17 see much scope for seeding new, more productive varieties
18 or species?

19 DR. BOX: You can seed new grasses and fill in
20 certain parts of the total system but you're not going to get
21 three or four times yield like you did with some of the crop
22 places. There's a limit by what a certain site can produce

1 depending upon the soils and the rainfall and climatic con-
2 ditions.

3 Where seeding of grasses or any other forage plant
4 usually comes in is to make the system more productive.

5 DR. HEADY: Legumes to make it more nutritive value.

6 DR. THOMAS: I think that some of the research
7 should be more carefully directed toward the biomass distribu-
8 tion and assessment. Now, Thad has said that we can't
9 probably change the total amount of biomass very significantly
10 but maybe we can, particularly if we look at water relation-
11 ships because we're utilizing only a very small part of the
12 rainfall that falls on the area.

13 And there ought to be ways to improve the
14 efficiency of water even though fertilizers might not pay
15 out. But I also think that we need to know more about biomass
16 distribution.

17 And the Biome Studies certainly pointed out that
18 insects were consuming more biomass than livestock in most of
19 the grazing systems in the southwestern United States. What
20 is the role of insects in these, and should there be some
21 ways to control these insect populations, particularly.

22 Now, we know when locusts hit the area what they

1 do, and we make some attempts to control locusts. But we
2 don't on a lot of the other insect populations. Maybe with
3 the advent of man and the increase in man's manipulation of
4 the system termites are more important than they were at
5 one time.

6 There are a lot of ways that we can look at
7 efficiency of biomass distribution, both from an economic
8 standpoint, and from a pure research standpoint. I think we
9 need to understand that.

10 You mentioned resource inventories. We still have
11 a lot of deficiencies in resource inventories that are out
12 there. With the approach that ILCA has taken to early
13 warning systems and to remote sensing and so on, we can get
14 some general ideas. But there's a lot of ground work that
15 needs to be done, too, on resource inventories, particularly
16 as you fall through climatic cycles.

17 We may have a short term of data, but we don't have
18 enough to know how to ride through these cycles in a lot of
19 areas.

20 DR. ERIKSSON: Ned Raun.

21 DR. RAUN: Another technology gap area, I believe
22 relates to the interface between range livestock, on the one

1 hand, and crops. This has been brought up before, but let me
2 just mention three examples. These crops could be simply
3 subsistence crops that the herders have to meet their own
4 needs.

5 Secondly, it could be as related to transhumane
6 systems where these people go up into range areas and come
7 back into the crop areas into the dry seasons.

8 And the other one, and I think Kenya is a good
9 example, is where you have grazing land areas that are
10 absolutely contiguous to dry land farming areas. The approach
11 as mentioned earlier this morning has been used, okay, we'll
12 look at range for range. Then you go here, a question of
13 five kilometers, and you're looking at dry land cropping,
14 and that's it, without giving any consideration whatsoever
15 to the interface, or the interrelation, between those two,
16 and here's a country where the demographic pressures are so
17 great, and when the pressures are to move from the higher
18 potential areas to the dry lands.

19 So when we talk about technology, I think here is a
20 big gap area to address how these interface.

21 DR. ERIKSSON: Tom Catterson.

22 MR. CATTERSON: I think I'd like to carry that

1 comment right into the whole area of the civil pastoral
2 management. I think that -- I'm sure we're all aware that
3 perhaps as much as 35 percent of an annual animal diet can
4 come from the savanna forest areas in many part of Sahelian
5 Africa, and I don't know how much we know about those things.

6 I think that there we are learning that there are
7 probably considerably more fragile than some of the range
8 areas in the north, in the sense that the soils are more
9 easily compacted, the destruction comes from several dif-
10 ferent angles.

11 And there what I think we need to look at is the
12 methods of rehabilitation, range rehabilitation, which soil
13 and water conservation, as Dr. Thomas said, we can use the
14 water regimes better. Well, I certainly think we can, because
15 what we get now is a lot of flash floods. A lot of that water
16 runs off somewhere and we don't use it, and so some kind of
17 minimalist approach where we're doing things like controlling
18 runoff not only for feeders and for water stocking, but just
19 for controlling the percolation back into the soil. We can
20 expect to get better results.

21 I think that's a real area for innovation.

22 DR. BOX: This thing that Ned brings up about

1 interface between crop and livestock and range may be part
2 of our bureaucratic heritage and our professions in this
3 country because I don't think producers really think in terms
4 of crops or rangelands or animals.

5 Sitting here as Ned was thinking, and with the
6 exception of a few remote properties in Australia, I can't
7 think of anywhere in the world but what a livestock producer
8 at some time uses both crops and rangelands. It doesn't
9 occur in our own western United States. Any successful
10 rancher here depends on crops at least part of the year,
11 and like I say, there may be other places, but there are
12 a few Australian sheep and cattle properties that don't,
13 but other than that I don't know where in the world they
14 occur.

15 All across Africa, Latin America, you use crops or
16 crop residues, or feed from cropland so we may be a product
17 of our own isolationism in various professions rather than
18 looking at the problem, you know. Agronomists are supposed
19 to raise crops and range is supposed to do something else.

20 DR. BERWICK: I think there's a lot of scope here.
21 In previous discussion here, I'm reminded of some enclosure
22 experiments that show that after one year you've got six

1 times the percolation and half the compaction inside an
2 enclosure. The litter was incredible inside. This is in
3 Africa. The litter was incredible, and when you talk about
4 more than half the secondary productivity possibly being de-
5 composers and what that means, there's an enormous amount of
6 scope.

7 The point is, I think, and this is getting back
8 to the first that was made this morning, if I could para-
9 phrase these Guidelines for Development of Arid and Semi-Arid
10 Lands that S&T Bureau has produced recently, Child, Heady,
11 et al. said that these development activities on these semi-
12 arid and arid rangelands have not been as successful as
13 hoped. And we suggest quote, "That the reasons for this
14 apparent failure is that past projects often did not consider
15 the total system."

16 And in light of what I was saying about the soil
17 and the water, even in these areas, by the way, to establish
18 some of the trees that needed some trampling and removal of
19 shade by grazing, that the systems approach that we were
20 advocating first thing has not been tried in the projects
21 that we were given to read. And I think that that's a
22 terrific area for a lot of scope in there.

1 DR. ERIKSSON: Jack Sullivan.

2 MR. SULLIVAN: Much of the discussion today, and
3 I suspect the analysis of so-called failures of intervention
4 have all been done almost in the absence of discussion about
5 a very severe and prolonged drought, and on marching
6 desertification as the Sahara progresses southward.

7 And it seems to me that we've got to look at whether
8 or not these were failures at all that we had previously if
9 they were assessed against a backdrop of 16 consecutive years
10 of below average annual rainfall in the majority of the area.

11 I don't think they were. I think we had some
12 pretty smashing successes considering what was happening
13 in terms of rainfall. By definition, a lot of the areas
14 of Africa in the Sahel, the below average annual rainfall
15 is at drought condition.

16 And Jerry Thomas has suggested, and I think it's an
17 excellent idea, that perhaps the measure of planning must
18 point toward drought conditions with respect to intervention
19 of any kind in order to get successes.

20 DR. ERIKSSON: How do you feel about that? Gary?

21 DR. EVANS: Two points on this. One -- and, again,
22 I have to cite a specific point in order to bring this home.

1 If you've ever stood inside the Abuko Preserve
2 just out of Banjul in Gambia, at the end of nine months of
3 dry season without a drop of rain, and see the incredible
4 amount of standing biomass that is available, and then step
5 right outside and attempted to deal with n'Dama cattle that
6 have not had anything to eat except what the children lop
7 off the top of the trees for that same nine months, you
8 immediately begin to see that there is, in fact, a lot of
9 potential even in the face of drought because you're dealing
10 with grasses and the shrubs that have evolved to deal with
11 this kind of a system. It's an over-impacted system. That's
12 part of it.

13 Again, the other part of this is most of the in-
14 dividuals that I dealt with were veterinarians receiving
15 their veterinary degrees primarily in either the Soviet Union
16 or Scotland, and tropical forage training in Australia.

17 I keep coming back to the same point. They could
18 not even deal with the ecosystems of their own country because
19 they were trained in forage production in Australia and were
20 focusing on livestock health problems, not ecosystem manage-
21 ment.

22 DR. ERIKSSON: All right. We're running out of

1 time so just a couple of other comments. Ray Meyer.

2 MR. MEYER: I think what Dr. Sullivan mentioned
3 has very much to do with what Dr. Thomas mentioned. Planning
4 for a drought is really understanding the system. And I
5 think we tend to forget that mean rainfalls are really
6 meaningless in some arid regions. The probability of
7 getting the mean rainfall is only about 30 percent. This is
8 as true in this country as in the Sahel.

9 And I think a lot of times when we say we have
10 three years of below-normal rainfall, that's exactly what
11 you expect three out of four years is that sort of rain.
12 And so I think it gets back to this data base that we need
13 to make justifiable intervention.

14 I think a lot of failures are based really on the
15 fact that the project design was so rigid and was designed on
16 a very limited information base, and as more information
17 was gained during the time of the project there was no means
18 of changing interventions that the project was designed for.

19 So we came in with a range intervention that should
20 not have been carried out after you found out more informa-
21 tion. And so I think this need for information base is very
22 critical to understand the system.

1 I'd like to add one other comment on what was said
2 before as far as productivity thing. I think that you don't
3 look at analysis in the dry land region or in range like we
4 do in other areas. If fertilizer is needed, you know, can we
5 really tell a mission, an AID mission, rather than putting
6 this \$100 million, put in an infrastructure for irrigation on
7 a 10,000 hectare irrigation project just to improve the
8 resource of that area. What would that \$100 million do in
9 improving the resource in the range area?

10 You could probably eliminate, well, the phosphate
11 deficiency for a long period of time. Treat that as a capital
12 cost for the resource rather than as operation cost for the
13 farmer. This is what we do in irrigation. We put in at least
14 ten to \$20,000 per hectare to improve the resource. We never
15 get the production back that we expect to get back.

16 What would that same \$10,000 do across ten hectares
17 in range area, or in a dryland area as far as return in
18 productivity? I don't think we have those analyses.

19 DR. ERIKSSON: Interesting point. Stephen.

20 DR. SANDFORD: I'd like to pick up two points.
21 Dr. Thomas suggested there might be something to be done
22 with moisture conservation. I'm a bit worried about this.

1 The actual amount of runoff out of Africa is actually quite
2 small, and I believe it's smaller out of Africa than out of
3 comparable continents. So that what you're losing into the
4 oceans is not very great.

5 It's not clear to me the kind of soil conservation
6 that you're talking about will reduce evaporation in contrast
7 to evaporated transpiration. I'm not sure how that will work
8 about.

9 But in many cases, what you're getting is runoff
10 from some of the steeper slopes, all the slopes where maybe
11 the topsoil has been eroded, isn't actually productively
12 used further down the gradient.

13 And I'm not sure there's too much in overall terms
14 to be gained out of moisture conservation. I'd like to pick
15 up a bit on Thad Box and say, well, okay, you can't increase
16 total primary productivity but maybe you can do something
17 in terms of changing the composition to make it more useful.

18 And I think we have to start pretty early on in
19 distinguishing systems. What the Devitt people did in Mali
20 was to suggest the base of the system is producing as much
21 as the plant nutrients allows which suggests there is very
22 little primary production which is going wasted.

1 On the other hand, if you go across the other side
2 of the continent, studies on the Tsavo Game Reserve in Kenya,
3 it was suggesting that only about eight percent in a normal
4 year of primary productivity was being taken off by animals,
5 in this case wildlife. And this suggested that the rest of
6 it, in a sense, was useless bush. This suggested in this
7 case maybe there was something to be done by manipulating
8 it.

9 Interesting in Zimbabwe, and I'm trying now to
10 remember figures which I don't remember too well, in identi-
11 cal ecological area, we had two systems, the ranching system
12 and the traditional communal system.

13 And as I recollect, the ranching system was con-
14 suming about 30 to 40 percent of primary productivity, and
15 the traditional system was consuming about 60 to 70 percent
16 of primary productivity.

17 Now, interestingly --

18 DR. ERIKSSON: What was the figure for the ranching
19 system?

20 DR. SANDFORD: I think it was 30 to 40. Interest-
21 ingly, the output per hectare of primary product was some-
22 what higher on the ranching system, but it consumed less of

1 it. It was lower on the communal system, but they consumed
2 much higher proportion of it. So, in fact, consumption per
3 hectare was higher on the communal system.

4 This suggests that maybe there is something to be
5 done by manipulating, but I guess it's going to differ
6 tremendously between the Sahel where there is very little of
7 the bush vegetation left, and some of the east African areas.

8 My final point, some of the studies carried out by
9 Trevor Wilson of ILCA is finding enormous differences in the
10 productive herds using essentially the same range areas.

11 We're getting orders of magnitude of difference
12 between the worst and the best herds of ten to one. But they
13 seem to have access to the same range resources, and this
14 brings me back to our point that maybe there is more to be
15 got out of looking at the efficiency with which the vegetation
16 is used by herders than looking at trying to increase the
17 vegetation.

18 So we don't really know enough yet about why we're
19 getting these enormous differences in efficiency between
20 different herds, nor do I know enough whether you get exactly
21 the same order of magnitude in cropping systems rather than
22 livestock systems. My impression is that the range between

1 the worst and the best is wider in these range livestock
2 systems that normally occurs under farming systems. But I
3 don't know.

4 But it did suggest to us that we ought to be looking
5 more at the efficiency of conversion.

6 DR. BOX: John, this gets me back to what I said
7 earlier. You know it seems to me like what we really need
8 to know is what is this land capable of producing, what
9 people want out of it, and then how do we manipulate it to
10 get what they want? If it's change herd structure or change
11 kinds of animals?

12 As I listen, though, to this discussion about
13 technical interventions it seems to me like the biggest
14 intervention, or the one that is needed most, is a better
15 understanding of the whole system, and that leads very quickly
16 into, I think, research and training. But I don't know
17 whether that is an intervention you're looking for or not.

18 DR. ERIKSSON: It certainly is.

19 DR. BOX: You know as I hear us share our ignorance
20 here, it seems to me like there is a real need for some rather
21 immediate interventions in understanding this whole thing.

22 DR. ERIKSSON: I'm afraid we really need to break

1 now and several of us will be going upstairs. The rest of
2 you may want to carry on the discussion in the cafeteria so
3 that we can get back together at 1:15 and go into the closely
4 related subject of program and project design questions,
5 and then there will be an opportunity for general discussion
6 the last half hour from 2:30 to 3 to come back to some of
7 these issues again. So see you in an hour-and-ten-or-15
8 minutes right back here.

9 (Whereupon, at 12:00 noon, the meeting was recessed
10 to reconvene at 1:15 p.m., this same day.)

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A F T E R N O O N S E S S I O N

(1:30 p.m.)

DR. ERIKSSON: Let's get started. We do plan for the formal sessions tomorrow to end by noon after the meeting with the Administrator. And some of you may be needing to depart at that point. Others may have some time. I was just talking with Larry Abel who would be happy to join whoever might be staying on at lunch tomorrow and for any further informal discussions after the session in the morning.

Okay. I suggest we go right into the next topic. I realize I didn't attempt a summary of that last discussion. I think some important points came through about the importance of research, of improved and available data bases, looking at the interactions between range and livestock and crops, some possible areas for research into increasing productivity, both with respect to primary productivity of the range, including fertilizer, and improving the efficiency of secondary productivity, that is animal conversion.

The next topic is quite heterogenous in nature and really gets into the nitty-gritty of our project experience. And some of these questions, I think, have been anticipated in the discussion already. This is on page three

1 of the agenda problem statement. I suggest we just move on
2 from here beginning with the first question which has already
3 been alluded to. The question of program as opposed to a
4 project-by-project basis, and a very specific question
5 about projects that are concurrent activities, and limits
6 on absorptive capacity. Comments? Reactions? Jerry.

7 DR. THOMAS: It seems to me in this project design
8 and the number of appropriate management tools that are used
9 it would depend on how much interaction you have with the
10 pastoralists and what kind of a situation it is.

11 But it certainly should be approached on a flexible
12 basis, and if you can't do one of them, you just have to leave
13 it out. And it would be almost impossible to say which ones
14 are appropriate without the mission and the people there
15 being involved in the decisions on the design.

16 But it's obvious that your generalization in these
17 documents that not enough attention has been paid to these
18 issues is true.

19 DR. ERIKSSON: In terms of project design,
20 that either might suggest a project which has sort of a
21 rolling design through the length of the project which I
22 think is something that has been proposed in AID, but I'm not

1 it has ever been carried forward, and, you know, I'm not
2 sure that that is really essential or desirable. An
3 alternative would be a project which has, if you will, an
4 experimental design phase at the beginning of the project to
5 be followed with a more traditional implementation phase
6 based on the results of that experimental phase.

7 DR. BERWICK: I think that's an excellent idea
8 because my impression from reviewing the audits was that the
9 people planning the project didn't have a full deck of cards.
10 I mean that system was not immediately obvious or transparent
11 or laid out and so that a reductionist approach focusing on
12 a few elements predetermined that that thing was going to ha
13 to have a rolling design, if you will.

14 And a rolling design is probably appropriate to
15 maintain flexibility and be responsive. But it also, I think,
16 could be an excuse for planning. I mean you can look at it
17 either way.

18 When I was looking at this Plan for Supporting
19 Agricultural Research, time and again in here they underlined
20 the need for focus program priorities, criteria, all of the
21 sort of things that would be embodied in what you suggested
22 in terms of, I guess, an experimental design phase to give

1 it more thoughtfulness.

2 DR. THOMAS: Are we talking about two things, or
3 are we talking about mixing research with the application of
4 technology because research -- you've got to have some
5 specifics in research. You've got to focus in on what you're
6 after, but if you're looking at a program for increasing
7 your livestock production, then you've got to be flexible.

8 DR. ERIKSSON: I think here in these sets of
9 questions, generally we're talking about, or at least these
10 questions were framed thinking in terms of action projects
11 on the ground. That is activities, not research. Correct
12 me if I'm wrong.

13 MS. ATHERTON: Well, one could use the broader
14 term "development" which would perhaps encompass a research
15 component as well.

16 DR. EVANS: That sounds more reasonable.

17 DR. BOX: The way you phrase number one here --

18 DR. ERIKSSON: But it's not an institution building
19 project that we're talking about right now.

20 DR. BOX: Yes. But that may be what you need.
21 But if the way you've phrased number one, it looks like you
22 want us to discuss the difference between a broad program

1 or strategy and individual projects. And it seems to me you
2 have to have both. You have to have a broad strategy of
3 where you're going.

4 For instance, projects designed now in livestock,
5 I think you would need to know whether your strategy is to
6 stabilize the system and prepare for the next drought which
7 we know is coming down there, or whether it is to double
8 immediate short-term output from rangelands, and they are
9 very different animals.

10 So you have to know what the strategy is before
11 we can talk about design of project. The project has to
12 be designed to meet the long-term strategy objectives of
13 whoever, either the host country or whoever is thinking
14 that.

15 And I think one of the reasons if these projects
16 have failed -- and there was a lot of discussion at our table
17 whether they really have at lunch or not -- if they have it s
18 because probably we didn't know what we wanted in the first
19 place. Or we changed our minds halfway through.

20 DR. ERIKSSON: A.J.

21 DR. DYE: I think that's right. I think we need
22 to stop and think about what we've been talking about here

1 this morning. When AID was challenged with the problem of
2 financial management a few years ago, AID responded with a
3 regional project, Sahel Regional Financial Management.
4 I don't know now that there is a regional range/livestock
5 advisor. I don't think there is. I've heard comments that
6 when we did have a regional livestock advisor that there
7 were some good things that came out of that.

8 But I think if out of today and tomorrow, there is
9 a program presented to McPherson, and if AID decides they
10 want to continue to do range livestock type activities, I
11 think there has to be a strategy and lay it out ahead of
12 time, and say, okay, maybe there needs to be an incubation
13 period. Maybe we need to learn what the host country
14 beneficiaries really want out of the project, and not hit
15 them at the end of the fiscal year or funding cycle and say
16 we want to do this project in your country; do you want this
17 money or not?

18 But actually have someone in there for an incubation
19 period to do some training, to do some sensitivity kind of
20 activities that say, okay, let's set up a small demonstration
21 unit. It might not cost very much, but let's see what kind
22 of results we can get. I think a strategy is definitely in

1 order.

2 DR. ERIKSSON: Are we talking about a strategy that
3 cuts across a region like sub-Saharan Africa, or are we talk-
4 ing about a country-by-country strategy?

5 DR. EVANS: I guess I have to go back to one of our
6 earlier discussions which was we need to deal with this on
7 an ecosystem basis which means that we immediately start-
8 ing across country boundaries in order to look at strategies
9 that can be dealt with by major ecosystems.

10 DR. SMITH: As long as you don't live the people
11 out of the ecosystem.

12 DR. EVANS: To me the ecosystem includes the
13 people. I think even more in Africa than in some other
14 more developed countries.

15 MR. WINTER: Could I just ask the group whether or
16 not they would feel comfortable right now in designing a
17 project or program that would really intervene at the herder
18 or the livestock raiser level given what we now know? Are
19 there specific areas where we could intervene, or does it
20 always need to be preceded by the information-gathering
21 process that goes on for how long?

22 Do we have something in hand that we could do now?

1 DR. HEADY: Who are you asking?

2 MR. WINTER: The group as a whole.

3 DR. BOX: I'm still trying to digest this word
4 "intervene." That sounds awfully confrontive to me. It's
5 almost like a military saying I'm not sure that we ever want
6 interventions or intervene. If we want to change the system
7 we have to do it by first knowing what the system is, knowing
8 what the people want out of it, have a technical base from
9 which to change the system, which may mean long-term research
10 in some cases.

11 Sure, there are some things we can do immediately
12 that will change the system. If you want -- if you can tell
13 us what direction you want to change, we can change it. But
14 I think the whole idea of interventions, I've had trouble
15 with all day, and I have for the last few years. When donor
16 agencies talk about an intervention, it's almost as if they
17 are again' the people out there rather than for them.

18 DR. THOMAS: I have the same problem with that
19 word.

20 DR. ERIKSSON: Allan?

21 DR. HOBEN: I'm still trying to help clarify what
22 we're talking about, but one possibility is we're talking

1 about AID and the host country having a clear analysis and
2 program strategy growing out of that which would comprehend
3 the kind of systematic view we were all advocating this
4 morning. So it would look at land and other resource use,
5 policies, and effective policies. We would look at the
6 biological issues and so forth.

7 And then the particular project, no matter how
8 small or big, would presumably fit within that. Is that the
9 kind of -- one possibility. Now, that might also have --
10 several countries in the Sahel might very well -- would
11 presumably want to have some lateral integration.

12 Now, clearly in the sense I've described it, AID
13 is supposed to do all of its projects within a country
14 development strategy environment. It doesn't always do it
15 equally well.

16 But I think one answer perhaps is we have done
17 less well at developing a coherent analysis of livestock,
18 of the various types of livestock and so forth, than we have
19 in some other subsectors in agriculture. So if that's what
20 you're asking, one answer I would give is yes, we should do
21 better.

22 And I think many of the past projects have been

1 rather ad hoc, and also tend to be copies of each other.
2 That is you find projects in one country that are pretty much
3 put together by well-meaning people under short time frame,
4 and so they took pieces of the logic and the intervention
5 that's the AID word -- the technologies, the assumptions,
6 the whole bit from another place.

7 And above all, this strategy -- this program or
8 strategy to be meaningful does have to really involve host
9 country policymakers and not just something done by an AID
10 team, or AID contract team that comes out and does the
11 strategy paper which is too often the problem.

12 DR. HEADY: Let me ask something for clarification
13 here. Does AID have an overall strategy or policy or plan
14 maybe put together from 50 or 100 CDSSs or some such analysis
15 as that? If so, then that's one aspect, and the project-by-
16 project is either that policy statement strategy to a country
17 or a region. Two things.

18 DR. THOMAS: This Africa Bureau's livestock develop-
19 ment systems strategy paper is good. But I think the focus
20 on strategy could be improved by the discussion that we had
21 this morning, a better analysis of country by country of
22 these stated questions we have here on production and income

1 related, equity and social, political objectives, and
2 environmental objectives. And I think if each project in
3 each country would focus more specifically on which of those
4 ones they're after, then we'd have a criteria by which to
5 measure progress.

6 I don't think we've had that in the past.

7 DR. ERIKSSON: I guess that's the answer, part of
8 the answer to the question. The African Bureau does have a
9 livestock policy or --

10 DR. THOMAS: It's a pretty good paper.

11 DR. ERIKSSON: Yes. That's what -- two or three
12 years old, now, Larry?

13 MR. ABEL: It's three years old. But may I just
14 say something here? The difficult thing here, again, and
15 I believe that this question refers to this, is that we can
16 do a strategy like that, you know, broad guidelines, things
17 to consider when you're considering, even considering a
18 livestock project or activity in Africa, or in different
19 countries in Africa. But you can only go so far when you
20 have to do a strategy paper like this for the whole of
21 Africa.

22 Can there be a strategy for all livestock development

1 programs in Africa, or does it have to be more on a country-
2 by-country basis. I think it has to be really -- you cannot
3 get much more specific than this paper, you know, for any one
4 country.

5 Now, this has to be very general, and it is by its
6 nature.

7 DR. RAUN: Then going the next to the CDSSs, country
8 by country basis, my question is to you folks in AID -- I
9 don't know quite how to say this, but I'll say it this way.
10 How seriously or how rigorously do you follow what's set
11 forth in these CDSSs in your planning and the establishment
12 of priorities?

13 DR. HEADY: I think it's the other way around.
14 How rigorously do you follow this?

15 DR. RAUN: No, no. But I'm going the next step.
16 This is a general one.

17 DR. HEADY: Yes.

18 DR. RAUN: But I'm going into the country state-
19 ments. We get down to the next level down. How closely do
20 you observe what is set forth in CDSSs as related to
21 strategy and priorities?

22 MR. ABEL: May I? In the two or three year period

1 that this strategy paper was in development, other than one
2 or two countries that I'm familiar with, for example, Mali,
3 there was nothing in various countries' CDSSs that was
4 specifically on a livestock strategy.

5 You know the CDSSs themselves do not get down
6 quite often to that level, within agriculture. I mean there
7 may be suggestions that there is going to be a livestock
8 program in the future, but it's not very specific nor de-
9 tailed. So this Africa Bureau sector strategy was meant,
10 then, as the guidelines to assist countries in coming up
11 with the strategy of their own in the livestock subsector, if
12 they so chose.

13 Very few countries have so chosen to do that.
14 Very few countries have come up with livestock projects in
15 the five years I've been in Africa.

16 DR. RAUN: May I make one other comment? This
17 points up to the complexities and the difficulties involved
18 in the planning process. This is not to throw stones, you
19 know. You can always talk about the other guy and how he
20 plans, and how he goes about his planning.

21 But I think it does point up the difficulties
22 encountered. So if we go like through the PID process --

1 I mean you start out with an idea. Then you've got to get it
2 down in terms of a PID. Then that's go to pass muster with
3 the people involved, and then you go to the next step to
4 preparing that PP.

5 And then finally you select a contractor or somebody
6 to implement that process. Then the next one is somebody
7 comes out to evaluate it about two years later. And because
8 of this whole sequence of things, there is a lack of
9 sufficient understanding and continuity from one step to the
10 other. So all of this gets confused.

11 In one stage of the process, the objectives are
12 such. They go to the next stage, the objectives are somewhat
13 different. If you go to the next one, the evaluation, they
14 say they're not right. And I don't have any answers
15 except that I think a fact of life is this whole planning
16 process is a very difficult one to deal with, whether you're
17 in the agency or whether you're outside the agency to
18 implement a project.

19 DR. BERWICK: Listening to the comment that this
20 livestock strategy paper hasn't really been embraced by
21 many of the countries in the few years since it came out,
22 I'm wondering if there is any utility to having a sector

1 strategy paper which is a little higher order and more central
2 direction showing what AID's goals are in terms of what the
3 agency's notions on what their development assistance program
4 ought to be, in order to give it a little more moment. And
5 whether that's not worth considering as well.

6 I don't know whether those things are real, or
7 they're eyewash or what. I really don't have any idea. But
8 I know there is an environmental sector strategy, agriculture,
9 forestry, and so on. Should there be one in this area?

10 DR. ERIKSSON: Well, there is an agricultural
11 sector strategy paper, although right now I don't recall
12 to what extent it really gets into livestock. I'm sure there
13 is some discussion there.

14 DR. HEADY: Another question, please. You have,
15 I believe, a set of guidelines for preparations of CDSSs?

16 DR. ERIKSSON: Yes.

17 DR. HEADY: And you have sets of guidelines for
18 the PID and project paper and so on?

19 DR. ERIKSSON: Yes.

20 DR. HEADY: Well, then, what really is this one?

21 MR. ABEL: This is Africa bureau-wide guidance for
22 things to be considered in incorporating -- if you want to

1 incorporate some activities in livestock on a country basis
2 in the future. Now, I would not say that this has not been
3 embraced. I think perhaps more --

4 DR. HEADY: Well, I'm just asking here.

5 DR. ABEL: I think more the thing is that this
6 has been embraced. And, in fact, country programs have seen
7 -- all right. They're saying that the general guideline
8 guidance in this strategy paper is saying that, you know,
9 that your policies pretty well better be those that you can
10 work with, or you can't implement the project under this
11 policy frame work, the relationship with the private sector/
12 public sector, their institutional capacities and capabilities
13 -- is livestock within your country's priorities?

14 Maybe that has been embraced, and that's perhaps
15 one of the reasons why there have not been anymore livestock
16 projects proposed because it's quite evident that the history
17 of these has not been very successful.

18 Now, what mission director is then going to want
19 to go make that a priority in his AID mission country strategy.

20 DR. ERIKSSON: I was just going to say I think
21 you have to recognize that policy is made in this agency in
22 various ways and through various means. And that paper is

1 kind of permissive in the sense that if a mission proposes
2 getting involved in a livestock area, then this is some
3 guidance. But it doesn't mandate it to get involved in
4 livestock.

5 MR. ABEL: No, it's not a policy paper. It's just
6 a strategy for the Bureau.

7 DR. ERIKSSON: And you may be wondering what moves
8 missions in certain directions from Washington. A paper
9 like this has varying influence. If it's a strategy paper
10 as indicated here, it's more in the nature of how -- broad
11 how-to's rather than whether you do something or not.

12 A policy paper carries a little more force. A
13 message in the form of a cable from the Administrator to
14 mission directors carries considerably more force. The
15 mission director and the Assistant Administrator from the
16 bureau coming out to a meeting of mission directors, and having
17 a direct, face-to-face dialogue also carries considerable
18 force.

19 Molly?

20 MS. KUX: John, I'd like to raise a question which
21 the panel might like to address. In terms of certain
22 countries, particularly in the more arid parts of Africa,

1 what are the alternatives to animal production in terms of
2 providing food? I mean are there alternatives? Maybe I
3 should phrase it that way in certain areas? Do you have much
4 of a choice?

5 DR. ERIKSSON: By certain areas, do you mean these
6 arid areas by which we now refer to as range areas?

7 MS. KUX: Well, at varying degrees, yes, but in
8 the most arid and in the rangelands, are there other options?

9 DR. THOMAS: I think the response to that is that
10 it's fairly obvious that if there is a way to get more pro-
11 duction from the land by going to cultivation, they go to
12 cultivation. And, in fact, they cultivate even marginal
13 lands in the hope that they'll get more returns per unit of
14 land from it.

15 So what we usually have is what's left. What nobody
16 else can do anything with. And that's a substantial amount
17 of land. And a substantial amount of the total food input.
18 In some cases, as much as 30 or 40 percent country by country.

19 But as far as alternatives are concerned, if it's
20 marginal you couldn't go into cultivation. If it's not, it
21 has to stay. Livestock production is the only way to divert
22 the biomass to mankind.

1 DR. BOX: Not necessarily. There are a certain
2 amount of forest products we need to consider. There is
3 frankincense, myrrh, gum arabic, and maybe even others, but
4 these may come under severe stress because they're also pretty
5 good forage many times, and overall management strategy --
6 as we were talking this morning -- looking at the entire system
7 may mean that some of those forest products, and in some cases
8 even food products that can be grown tree crops, particularly
9 the gums that can be sold and so on are quite valuable in
10 some societies.

11 DR. THOMAS: That's particularly true if you want
12 to put water harvesting techniques in place to concentrate
13 the water, make more effective use of it. That's intensive,
14 more intensive management.

15 DR. BOX: And I think there's a potential that is
16 sort of far out now, but just for arid land tourism, there
17 is some really interesting sites in some of those arid lands.
18 But that's a long ways away, I think. It's not anything in
19 the near future.

20 DR. BERWICK: The rangelands in Kenya were the
21 second -- well, the wildlife resource on those rangelands
22 are the second-leading foreign currency hitter. Also, I

1 guess it hasn't been mentioned because it's not a universal
2 big player, but game farming and game ranching where you can
3 increase the productivity three to five times over the
4 productivity of domestic livestock and still conserve the
5 spectrum of the resource base. That is another option.

6 In fact, another kind of interesting area of
7 technology is trying to mimic that, form a use with
8 domestic livestock some. We haven't talked about that.

9 DR. ERIKSSON: How do people feel about that
10 option here?

11 DR. BERWICK: Well, let me just say it's worked
12 some places. It sure hasn't worked in other cases. In
13 southern Africa, in Zimbabwe there was some success but --

14 DR. THOMAS: Well, that leads to a question that
15 we may have to separate out from all of these other questions
16 is the question of where are deficiencies in research and
17 how should we approach that versus what kinds of applications
18 should be made of the knowledge that we have.

19 And I think there's a place in this whole area for
20 additional research, and particularly as we look at trying
21 to determine where we can improve deficiency of biomass
22 distribution.

1 But that's different and that could be regionalized
2 if the countries would sit still for it. You have a political
3 problem with the countries. Some of the research problems
4 could be regionalized, and of course, they have been to a
5 certain extent by ILCA, but there are still deficiencies in
6 research.

7 So if you separate that out, and you ask different
8 kinds of questions than you do about just livestock produc-
9 tion.

10 DR. HEADY: Well, if you separate out not only that
11 but the other uses, the wildlife use that was just mentioned
12 --

13 DR. THOMAS: That's a research. There should be
14 some demonstrations at least.

15 DR. HEADY: Okay. This is the point that I would
16 like to enter and add to here. That the research that is,
17 to me, would be financed and started through aid projects,
18 and I use the term aid generically there from any source in
19 these countries, I think should be largely demonstrational,
20 largely adaptive in style, and save the basic research type
21 like your biomass, basic studies, to either regional labs
22 or to other countries where -- developed countries where it

1 can be done more sophisticatedly. I don't know whether you
2 agree with that, Jerry, or not.

3 DR. THOMAS: Yes, I think so. And I think ILCA --
4 I don't know enough about how ILCA is regionalizing this kind
5 of research that we're talking about, but that doesn't have
6 to be country by country. Some of these kinds of questions,
7 they can be looked at from an area standpoint.

8 DR. HEADY: But every country wants to get into
9 research, and the long and the short of it is they shouldn't.

10 DR. THOMAS: Well, there's a regional approach.
11 It's proposed here, and that's the current thinking of AID
12 is to regionalize the research, whether it's politically
13 salable or not, I don't know. Except there's not any men-
14 tion of range as such in here.

15 DR. ERIKSSON: That's why you're here today.

16 DR. HEADY: There's very little range, if any, in
17 this paper:

18 DR. THOMAS: That's correct. Yes.

19 DR. HEADY: On page three, there's some hints that
20 there might be some range there, but I'm really not sure.

21 DR. BERWICK: Which one is that? I'm sorry.

22 DR. EVANS: That's in livestock development

1 strategy. The question comes down to, one, what are the need
2 for research in the primary productivity versus secondary
3 productivity, whether it's harvested, by game, or domestic,
4 or semi-domestic livestock is one set of questions that I think
5 AID has at least attempted to deal with in the past, and as
6 we see in this paper they speak about the livestock develop-
7 ment program.

8 There's really nothing that speaks to the resource
9 development program of primary productivity.

10 DR. HEADY: And our trouble with discussing Area
11 III just before lunch with that list of things suggests that
12 we need that adaptive kind of research to make it useful
13 for the developing countries.

14 DR. EVANS: That's correct. We've come a tremen-
15 dous distance when you look at dealing with trypanosomiasis
16 with improving feeding of the indigenous livestock. And yet
17 we turn right around and this same group starts talking
18 about what are the available forages, and outside the work
19 that is being done at ILCA, I can't pull anything else
20 together.

21 I did mention to Harold just before lunch what the
22 group at Colorado State has been able to do in the Tirkana

1 Project which I think is the first systems study of energy
2 flow within the ecosystem.

3 That's the base. We probably don't need as in-
4 tensive a study as that throughout all that. But it's
5 building on pieces of this energy flow that are necessary,
6 I think, to move what AID is seeking for one step further.

7 DR. ERIKSSON: W don't we look at the balance of
8 these specific questions here and ask for comments and
9 discussion on any of them. I think at some point fairly
10 soon, and perhaps before our schedule suggests, would like
11 to get back to a recapitulation and raise some of those
12 basic kinds of questions that we started off with this
13 morning, and which I think Nyle was raising upstairs again
14 at lunch.

15 Allan, did you have --

16 DR. HOBEN: Yes, I had a couple of points. One,
17 I don't think it's very important whether AID has a coherent
18 program strategy for a country. What's important is that
19 the country does, and it gets back to the kind of assistance
20 and long-term work we need to do.

21 Secondly, on the question of how many types of
22 activity, it's true the systems are complex, and one needs

1 to understand that, again, the host country above all, and
2 to some extent research has to look at complexity. But
3 it's pretty clear from the past record that our projects
4 should not have many different activities, especially when all
5 of those have to happen at the same time or in the right
6 sequence for anything useful to come out of it.

7 This is not a problem that's limited to pastoral
8 livestock projects at all. But a wide range of Bank and AID
9 projects have not worked well because of the complexity of
10 the assumptions: what the host country will do, what will hap-
11 pen in management procurement. You can go down the line.

12 Now, on two, it seems to me we haven't paid enough
13 attention to those things, but it's not clear whether those
14 are key constraints, or whether all the other things that
15 can happen are more important.

16 Regional differences, sub-regional differences --
17 yes, there are. And from talking with Nyle Brady, it sounds
18 like McPherson doesn't want to hear about them, but that's
19 a problem because it seems to me that they're very important.

20 You're trying to make a recommendation that doesn't
21 say it depends. I don't know exactly how you do it.

22 DR. ERIKSSON: Well, now when we talk about

1 subregional differences, are we talking about a dozen or three
2 or four key ones? I think that makes a difference?

3 DR. HOBEN: Perhaps what you're talking about is
4 several dimensions along with you have variations. So you
5 try to place -- you could characterize a Somalia or a
6 northern Kenya situation in terms of the critical constraints,
7 in terms of pastoral strategies with other opportunistic
8 or conservationist and so forth so that you can --

9 I think it's not a question of saying everything is
10 different everywhere. What we need to do is the kind of
11 thing that Stephen tries to do in the book.

12 DR. BOX: I'd like to say something about -- I guess
13 it comes under number four year -- successful or projects
14 that have been perceived to be successful. I'm not sure I
15 know what success or failure is. And it seems to me that if
16 we look at those, wherever they are, there is a pattern.
17 There are some reasonable goals. The reasonable goals and
18 knowledge of the system, what the system is, but more import-
19 ant in all there are people. There are people in government
20 who are trained in range management, their counterparts who
21 are well trained. They are not somebody you have to send off
22 to school to train, and then hope he comes back before the

1 project starts or is finished. But there is already people
2 in place at all levels of government who know what you're
3 talking about. There are reasonable counterparts who can go
4 out and get the project running to begin with. And built
5 into the project there is the ability to change as you learn.

6 Now, unless those things are in a project I don't
7 see how it can succeed, whether it's a crop project or
8 range project or what. You've got to have reasonable ex-
9 pectations based -- not something that is completely outside
10 the system. You've got to have people trained and who under-
11 stand the work on both sides, both the contractor and the
12 host country, and they have to be good people. And then there
13 has to be ability to change as you go through there.

14 And I think those are necessary for successful
15 projects. I don't know that they are. And I think a project
16 in Africa will work if you get those.

17 DR. THOMAS: What this really says -- I agree with
18 that -- what this really says is in considering a project
19 design, you should build in a research component and identify
20 those basic and applied research problems. We should build
21 in a training component for the people to carry out these.

22 The secret of success is the manager and the people

1 that are on the ground, whether you accomplish your objectives
2 or not. That's true in the ranching industry in the United
3 States. You can take two or three ranchers side by side and
4 one has enough knowledge to choose the strategies and can
5 be successful. And the other one in the same ecological
6 zone is a failure because he doesn't have the knowledge base
7 to adapt the technologies that are appropriate to that
8 particular time.

9 But just as there are regional differences that
10 are environmentally oriented, every manager has a little
11 different approach to those. And I think the key really is
12 to teach flexibility, knowledge and flexibility. That's how
13 you adjust and leave through these kinds of situations. You
14 have to have some built-in flexible strategies.

15 DR. BOX: Yes. My point is there has to be a
16 champion for the project, whatever it is.

17 DR. EVANS: Has to be what?

18 DR. BOX: A champion, a supporter, an entrepreneur
19 that will carry it through in the government, in the AID
20 mission, and in the contract. And they've got to be reason-
21 able, flexible people that can change as situations change.
22 And they have to be knowledgeable about the subject. They

1 can't just be an MBA that knows and really likes livestock.
2 It's got to be somebody that knows how livestock are produced.
3 And all three of those areas -- or it won't go. I hate to
4 oversimplify it.

5 MR. WINTER: It's discouraging, though, because the
6 likelihood of getting all three of those for an extended
7 period of time is nil.

8 DR. THOMAS: If they're there to begin with.

9 DR. BOX: I think you can get two out of the three
10 pretty easy.

11 MR. WINTER: Try to.

12 DR. BOX: I'm not going to say which two.

13 DR. SANDFORD: Can I address question number four?
14 Most of the discussion is based on our experience in sub-
15 Saharan Africa. What lessons, if any, can donors learn from
16 extensive livestock projects in other developing regions
17 of the world.

18 Perhaps I could just read a very summarized version
19 of this thing by Jarvis on World Bank projects worldwide:
20 Factors which tend to success are: (1) adequately adapted
21 technological package; (2) attractive producer incentives;
22 (3) institutional capacity; (4) qualified technical personnel;

1 (5) government commitment to the project; (6) political/
2 economic stability; (7) clear property rights; (8) producer
3 organizations; (9) realistic project design; (10) firm
4 supervision.

5 There are no surprises in that list at all

6 DR. HEADY: Well, Thad only said he could two out
7 of three.

8 DR. THOMAS: That's a good list.

9 DR. ERIKSSON: Do I hear any dissenting voices?

10 DR. BERWICK: What was number seven again?

11 DR. ERIKSSON: Now, was that list based on observa-
12 tion of successful projects also? Exactly, that's right.

13 Or were these things that were lacking in the unsuccessful?

14 DR. SANDFORD: What I have is the executive
15 summary which does not give his research methodology. Okay.
16 But this is, I guess, more a commonsense thing rather than
17 a factorial analysis. But it is on all livestock projects,
18 not only those in the arid areas, and it is worldwide.

19 As I say, I guess you could take that list and
20 apply it to any kind of project in the power, hydraulic,
21 whatever it is. But essentially what they're saying is
22 that it's not specific. It's a whole list of things that

1 you have to go through. But I would like to draw attention
2 to the one he put up front is an adequately adapted technologi
3 cal package.

4 DR. ERIKSSON: But if at the same time we have a
5 sense that success has been harder to come by in this area
6 than in others, then I guess we're saying that it's been
7 more difficult, for whatever reason, to bring about or to
8 realize these prerequisites, these ten characteristics in
9 this area than in other developing areas.

10 DR. SANDFORD: Yes. Do you want to know that you
11 are in bad company, all projects, internal rates of return
12 for livestock projects, the World Bank is seven percent.
13 All livestock projects which is considerably low their
14 agricultural level generally. And their estimated rate of
15 return -- this is post-project -- on small holders was
16 minus 0.3 percent so you're not alone in having problems.

17 In other words, the overall average is dragged
18 up by large ranches in Latin America.

19 MR. WACK: John, the thing is if you talk about
20 this over a period of even say 20 years what has been the
21 ratio of livestock or range management type trained persons
22 in relation to the other kind of staff, the program staff?

1 DR. ERIKSSON: Are you talking what? About AID?

2 MR. WACK: In AID, yes. And we haven't had the
3 manpower or person power out there to carry out the livestock
4 projects because we had to get the feed, and that person had
5 to know how he or she could be involved in the feed process
6 for the livestock.

7 And we really haven't had -- there was one comment
8 over here about -- where we had to have a mentor. We had to
9 have someone that you knew was going to be there and carried
10 the thing out for a few years. And within AID, we just have
11 not been able to have that.

12 DR. ERIKSSON: Well, I'll ask Larry to comment on
13 that. To what extent -- I suppose one way of framing that
14 question -- has the lack in the last five years of
15 initiation of livestock projects been a function of lack of
16 staff?

17 MR. ABEL: I don't think it's been a lack of staff.
18 There have been about four projects, livestock projects,
19 or when I say livestock projects I should clarify that to
20 say projects that, say, more than 40 or 50 percent of the
21 funding for activities in the project focused on livestock.
22 There have been about four since I've been in here in the

1 last five years. I think that there has been a tendency
2 to have people with a livestock background and livestock
3 training as project managers in those countries where live-
4 stock is a very important part of the -- maybe I need to
5 clarify more -- you know, an extremely important part of
6 the economy like Somalia, for example.

7 Perhaps here in AID -- the thing is, though, in the
8 field even though you may have a project manager, maybe even
9 an egg officer who is extremely interested in livestock,
10 the USAID mission as a whole may not -- you see if you're
11 only going to get one or two projects, new projects, per year,
12 maybe only one of them is going to be in agriculture.

13 There's going to be a natural tendency in most
14 countries not for it to be a livestock project. In a country
15 like Somalia where 87 percent of the agriculture production,
16 the gross domestic product from agriculture is from livestock,
17 you've got two or three livestock projects there.

18 However, here in AID Washington, too, I would say
19 within the African Bureau, the position for a livestock
20 expert, specifically for a livestock expert, was deleted
21 about four or five years ago. The position even in the
22 Science and Technology Bureau for a livestock specialist is

1 being deleted right now. But it's not -- it's also a problem
2 -- again, going back to the history of unsuccessful, or
3 failure of livestock projects, there is bad, there's a very
4 bad attitude, or bad taste in people's, you know, toward
5 livestock projects because we have been relatively unsuccess-
6 ful.

7 So, you know, what mission director, unless he's
8 got an extremely strong case for presenting a well-thought
9 out livestock project is going to even venture into the
10 livestock subsector?

11 Even Somalia, they've got two or three projects
12 there, but --

13 DR. THOMAS: And with AID facing a budget cut,
14 that's even going to be tougher.

15 MR. WACK: I think those are well-said words.

16 MR. ABEL: And I think it's not only the AID, I
17 think it's other donors, too. I'm sure the World Bank,
18 for instance --

19 MR. WACK: Yes, it is.

20 MR. ABEL: And when you have studies that were
21 done with the result and a conclusions, for example, that
22 were reached by Stephen's paper back in 1978-79, I mean that

1 is bound to be the conclusion of many countries and donors
2 who were or are perhaps interested in livestock projects.
3 They are extremely difficult.. They are very complicated.
4 Allan here mentioned about projects being more -- you know,
5 not trying to do everything.

6 But if, for example, in Somalia, they wanted to do
7 a livestock production project, and my thought was that, look,
8 you should not do a livestock production project unless you
9 can do something first to assure that there is going to be
10 an increase in offtake. There's got to be effective market-
11 ing system there long-lasting because if you do projects
12 that are just going to increase the production, and there is
13 not assurance that there is going to be increased offtake,
14 then I think you're getting into some more very serious
15 problems of environmental nature.

16 You're doing that in Somalia now. In countries
17 where some people have said they have gone from cattle to
18 sheep and goats, there's good reason for that, I think, not
19 only because maybe they can make more money from sheep and
20 goats. It's because there are more people and there are
21 more livestock, and I think there's been a reduction in
22 the resources in which to produce those livestock and for

1 those people to subsist. In some of these cases -- I'm sure
2 what happened in Kenya shortly after the droughts, the
3 serious droughts in the mid-70's when the Masai and large
4 areas switched from cattle to sheep and goat in some areas.
5 It was largely because there was no vegetation there.

6 The vegetation had been almost completely deleted,
7 the type of vegetation that cattle consumed. So that was
8 a response. Now, I don't know whether it was a one time
9 response, or whether this happens every 50 years or 200
10 years or whatever. It may be long-term change.

11 But I mean I think basically this is what is
12 happening. When someone -- I'm sorry -- I'm going on.
13 When a matter came up at the end of this morning's discussion
14 concerning water points and so in the Sahel area and the
15 droughts. Now the drought should not be looked at as an
16 unusual thing.

17 The drought and the Sahel should be a given factor
18 now. It happens every seven or ten years. The fact is there
19 is less water in the Sahel area. Every seven or ten years,
20 there is going to be two or three rainy seasons in a row
21 which are going to fail, two or three together.

22 The water level, the water table is decreasing.

1 The climatic conditions have changed. They've got figures.
2 They've got records now over a two or 300 year period to
3 show that there has been a steady deterioration in the
4 climatic conditions in the Sahel.

5 DR. ERIKSSON: You're saying that drought ever
6 seven to ten years is worse than previously?

7 MR. ABEL: That's correct, and over a long-term
8 basis there has been a reduction in overall rainfall over a
9 ten or 20 year period.

10 In the meantime, there are more and more livestock.
11 There are more and more people. They are being forced to
12 raise their livestock on smaller and smaller areas, and I'm
13 talking about the extensive production systems now. And it
14 is an extremely serious problem, I feel.

15 And I for some years now have been trying to grope
16 with this, and what can you do about it. And I'm still grop-
17 ing with it.

18 DR. ERIKSSON: Jack Sullivan.

19 DR. SULLIVAN: Yes. Larry Abel has very eloquently
20 made the case for the lack of infrastructure in AID of people
21 on the livestock side of the range/livestock interface. And
22 one place where there's even fewer people is on the range

1 side of the range livestock. And three or four of us were
2 out in the hall during the break for lunch, and we couldn't
3 remember any. We might have a bad memory, and perhaps forgot
4 what some of our associates are doing, but there's a case to
5 be made for other side of that interface also.

6 DR. SANDFORD: But are we seriously putting forth
7 the proposition that if there had been two more range men
8 in AID that these livestock projects would have been success-
9 ful?

10 MR. ABEL: That certainly wasn't the case that I
11 was trying to say. I said there's been a reduction in
12 interest. But I do think there are quite a few livestock
13 people, maybe not quite so many range development people,
14 in the Africa Bureau and in the agency still.

15 MR. WACK: We've had identified by Larry the
16 dearth of livestock people or range management people in
17 AID. That's a problem for you, it looks like to me. When
18 you review these questions and this discussion that you've
19 gone over today, you're saying you've got an empty barrel,
20 but if we had water here's the way we'd fill it.

21 And I think this is a problem that you need to
22 face as you make your recommendations.

1 DR. ERIKSSON: Well, these two, they go hand in
2 hand, and certainly in our current circumstances there's not
3 likely to be a move to increase or direct our capacity in
4 this area unless evidence can be marshalled with respect to
5 the desirability and payoff of moving into this area more
6 than we have. So it's really a classic chicken and egg
7 proposition, I'm afraid.

8 Tom Catterson?

9 MR. CATTERSON: I don't want to be a pollyanna on
10 this. But it seems to me, you know, you face analogous
11 situation to what we in forestry are facing. We have very
12 little capability from the agency for forestry. We spend a
13 lot of our time reinventing the wheel and defending ourselves.

14 But the reality is you have to ask yourself whether
15 you've really had a run at it within the context of the
16 agency. What I heard earlier this morning were people saying
17 -- we're talking about sub-Saharan Africa -- I heard people
18 saying we ought to work on the basics and begin to develop
19 national capability. And I don't think that you need a
20 great deal of livestock capability to do that because you're
21 talking about a different phase in the development process
22 whereby you're helping this agency do what it does best which

1 is procure the services like yourselves to help build human
2 resources and institutions. And to learn as we go.

3 And I think that's really good. If the Administrator heard
4 the tenure of the discussion we're hearing now, we'd all be
5 gone from the livestock range management area.

6 I think we really need to, first of all, ask our-
7 selves whether we've had enough of a shot at it, what is it
8 that we think we ought to do and can do. I know that's what
9 you're talking about, and I don't mean to lecture on that.
10 But I see us slipping away from some of the important things
11 that were said earlier this morning about what to do at this
12 stage in the context of USAID and in the context sub-Saharan
13 Africa.

14 I think it can be done. We're still plugging away
15 at forestry. I think the one thing that we're doing in
16 forestry which I'm not sure how analogous it is to this
17 situation, but that is greater integration with agriculture,
18 much closer ties with agriculture itself because this is --
19 if there's a mainstream technical dimension to our work,
20 it's agriculture, and it's positive that the agriculturists
21 are getting interested and involved in forestry. That's the
22 only way it's going to work.

1 And as with the cooperative extension services in
2 the United States, they have one or two foresters to service
3 a general extension capability. Probably that's what this
4 agency needs is a few people to service it in the forestry
5 area where the mainstream is agriculture. I don't know
6 whether that is the same for livestock and range management.
7 I'll let you make that decision.

8 But that's the way I see us going.

9 MR. MEYER: To follow up on Tom's, I think one
10 thing that has come through the discussion today, and what
11 Tom is saying is really that the basic thing that cuts
12 across all this is that resource base, and I don't think that
13 we have to have a separate entity that looks at soil and
14 water resources for range separate from forestry or separate
15 from agriculture.

16 I think that one thing that can be done certainly
17 is that you have to have that resource base, and, it was
18 mentioned, resource inventory. You have to look at produc-
19 tivity, and you have to understand the system. If you
20 understand the resource system and climatic system and the
21 soil system, a system that holds true whether it's for
22 forestry or for range or for agriculture.

1 And it seems to me that can still be the focus
2 without going into a completely new program. You need to
3 pull in the range side as far as training people, institu-
4 tions, that sort of thing. You don't have to do the whole
5 new institution. You don't have to do an entire new universal
6 range. You do have a common thing. And I think it's true
7 from everything I've ever seen on Africa that the basic
8 problem is the lack of understanding of that resource base,
9 at least from a biophysical side, and I'm talking biophysical
10 side.

11 Certainly the human side is somewhat different.
12 It's cultural, economic side, but you have to have that
13 soil, land, water resource system understood.

14 DR. THOMAS: John, if we're back to the original
15 question of whether or not to get involved in livestock
16 projects, I would hate to be the agency that stopped research
17 and education and development in this area because of the
18 economic importance, and also because of the large expendi-
19 tures that we've made on the problems that the drought has
20 caused for the people of Africa and most of that -- a good
21 part of that was focused in the livestock sector, and in
22 the uncultivated and dry land areas.

1 Surely, we'll have to do something so that the
2 next drought will not be as disastrous as this one. If we
3 don't, it's going to be worse because just like Larry said,
4 there's more livestock, there's more limited people on a
5 more limited base. And the next drought is not going to be
6 bad. It's going to be worse than this one.

7 So the cost in terms of food aid is going to be
8 far more than the cost of some innovative projects that take
9 a look at this whole system and find ways to divert more
10 biomass to the human sector through livestock.

11 And we keep coming back to the statement that the
12 livestock projects have been a failure, and I do not believe
13 that. I think they've been a failure only in relation to
14 certain kinds of measures.

15 There's a lot more information in place in each
16 of these countries. There's a heck of a lot that we've
17 learned from these projects, and in some respects the
18 projects have been successful, and I think it would be a
19 disaster to discontinue a certain percentage of the expendi-
20 tures in this sector.

21 DR. ERIKSSON: Okay. Now, this relates to the
22 kind of question Nyle posed at lunch. To what extent are

1 you prepared to go beyond that? In other words, is there a
2 potential for -- and if so -- rate for expanding productivity
3 in these areas?

4 DR. THOMAS: I think that again you shouldn't
5 limit the question to that. You should at least look at the
6 three things we talked about this morning: environmental
7 stability, economic aspects, and social/political systems.

8 And if you look at all three of those, the potential
9 is great, and in some areas it's great for just productivity
10 alone. In other areas, you're not going to get a heck of a
11 lot of increased production.

12 You're not going to get any miracles from those
13 low rainfall areas. It's just not there. But that if you
14 look at the stabilizing the economy, and social and political
15 systems in the area, then there is a great potential.

16 DR. ERIKSSON: What you're saying is that for some
17 geographical areas of Africa, we need to stay involved to
18 prevent further deterioration. That the costs of doing that
19 are lower than the environmental, social and political
20 losses that would follow from inaction, or from pulling out
21 altogether.

22 DR. THOMAS: Right.

1 DR. ERIKSSON: So that's one category. And you're
2 also saying there are other geographical areas in Africa
3 where there is potential through activities which we could
4 support for significantly enhancing productivity.

5 DR. THOMAS: Yes. Because we haven't really
6 defined sub-Saharan Africa because now when you get into
7 the rainfall areas of 15, 16, 20, 30 inches, you've got
8 tremendous potential for increasing biomass production,
9 manipulating species, and doing lots of kinds of things
10 that you can't do when you're talking about the areas less
11 than ten inches of rainfall, or where you're confined to
12 annual type vegetation.

13 And maybe one of the biggest areas regionally
14 to look at is to get the flexibility that's offered in the
15 high rainfall areas somehow or other to pick up that flexi-
16 bility in the systems.

17 DR. ERIKSSON: So the distinguishing feature
18 between these two geographical areas is rainfall?

19 DR. THOMAS: Well, and distribution, I guess.

20 DR. BOX: Rainfall or maybe some other limiting
21 factor. One of the things that Nyle kept pushing at lunch
22 is how do you increase productivity. If you stop and look

1 at arid lands ecosystems, or even semi-arid ones, they have
2 evolved for stability rather than productivity. They will
3 evolve to survive. The kind of animals that are there, the
4 kind of plants that are there, and so on, and even the kind
5 of social systems that are there.

6 So if we want to change those, I think the first
7 thing we need to do is look at limiting factors. Some dis-
8 cussion was this morning about the Dutch paper in Mali
9 which looked at what was limiting in each of those various
10 areas. If we look at limiting factors, and then once we've
11 identified the limiting factors, we have to answer how and
12 at what cost, not only economic but social costs, can we
13 change those factors?

14 Then, how and what costs do we just keep them
15 stable. Either one could be an objective. Stability
16 through long-term to prevent deterioration during drought
17 or to increase productivity. I'm not at all convinced that
18 we want to increase productivity on some areas.

19 But that's what I keep hearing, and that's what I
20 kept hearing from Nyle today at lunch is how are you going
21 to increase productivity. There are some areas, particularly
22 those of higher rainfall, that maybe we want to put some input

1 in to change the system.

2 DR. HEADY: That ignores the other uses that are
3 out there. It implies livestock productivity.

4 DR. BOX: Well, we can look at limiting factors
5 for any use whether it's forestry or whatever else.

6 DR. RAUN: Just following on two comments. One is
7 the stable system one and then one you made this morning about
8 what is left over. I think we need to add this dimension.
9 It simply this. Is how you make the most effective use of
10 the resources at hand, and in the process you take measures
11 to maintain them, or put it the other way around, to see that
12 they are not degraded.

13 Because if you allow them to degrade, then they
14 will produce less, or maybe even to the point that they pro-
15 duce nothing. So I think it's not just a question of how it
16 is that you can produce more, or what the potential is for
17 increase, but if you're sitting here with such a large
18 resource base which at the moment is producing a significant
19 amount of product that is meaningful to people and where there
20 are a large number of people involved, you have to address
21 the factor how it is that you can most effectively manage
22 that resource base over time.

1 That may mean -- frankly, it may mean that they
2 should have less livestock and fewer people and less product,
3 not more livestock, more people and more product. But it
4 may mean exactly the opposite, and then that comes back to
5 your point then. If you put it all in the balance, what is
6 the better procedure to make some investment here to see that
7 you make the most effective use of that overtime, or just
8 let it go.

9 DR. THOMAS: Yes. If you want to measure progress
10 in terms of people and livestock, let's start now when there
11 is no people there, you know, right at the heart of the
12 drought. Then we can count progress if that's all we want
13 to talk about because there will be people and livestock
14 come back into the zone. We can claim credit for that.

15 DR. SANDFORD: I'd like to pursue two points.
16 First, Jerry Thomas, that they haven't been so unsuccessful
17 as we're making out. Well, let's just look at that a bit
18 closer. If we hadn't had any of these AID-financed livestock
19 projects, would livestock outputs have been lower? Would
20 range degradation have been higher?

21 I'm bound to say I think the answer to both those
22 questions is no. These projects have had no effect on output

1 and have had no effect on range degradation. So what's their
2 success. Their success is in amassing a body of knowledge
3 for use in the future and in training staff. What's the
4 implication of this for future projects?

5 Are we now in a position where we know enough that
6 we can go back into doing direct production projects of the
7 kind that have been unsuccessful in the past, or do we need
8 to go on training more staff and doing more research. That
9 seems to be a fundamental question that we've got to answer.

10 Let me now jump sideways to picking up something
11 that Thad Box said which said he's not sure that productivity
12 that we ought to be increasing; it should be stability.
13 I did a paper some years ago -- which Thad, I think, is
14 familiar with -- which showed that under a fairly realistic
15 set of assumptions, there is a distinct alternative.

16 You can't both have stability and output. If
17 you want higher average output, you will go for greater in-
18 stability. Now, it's nice to be stable, but what are we
19 going to do with the people who we shall have to displace if
20 we're going to have a more stable system?

21 The area on average doesn't have enough income.
22 If we're going to have it more stable, we probably have to

1 have less output, and that means we have to get rid of
2 people. Is this an option which, in a sense, we can tackle
3 here? Can we decide this that we will have more stable,
4 less supporting systems? Whether we can support less people
5 in these areas depends either on we're prepared to let them
6 die or whether some other aspect bit of the economy will
7 grow fast enough to absorb people out of it.

8 I'm not sure we just don't have to go along with
9 trying to get the greatest possible productivity and give
10 them food aid in the bad years.

11 DR. BOX: It may be.

12 DR. ERIKSSON: Doesn't that assume a certain kind
13 of technology, though. One of you was mentioning the shift
14 from perennials to annuals. I could see that while increasing
15 up with also increasing variability, if technology changes
16 in other respects, application of phosphates, for example,
17 you may get increased yield and increased stability.

18 DR. EVANS: That tends to go against certain basic
19 set of ecologic principles that says anytime you're going to
20 increase one of your limiting factors, you are immediately
21 creating another set of limiting factors. So we do increase
22 the base level of phosphate. You're immediately going to

1 create another weak link in the chain.

2 DR. ERIKSSON: But at a higher threshold of
3 productivity, aren't you, because you're bringing in a re-
4 source from outside the system, at a cost to somebody else,
5 to be clear, but not a cost to the system.

6 DR. EVANS: I am not willing to either agree or
7 disagree on that point given my limited understanding of
8 some of the soils that you're having to deal with in much of
9 sub-Saharan Africa which have what -- less than half of one
10 percent organic matter, extremely high pH's, many other
11 problems -- to come in with a broad shot of phosphate,
12 which I think we all recognize is today's limiting factor,
13 whether we're going to attain that higher plateau that we
14 theoretically say is there or not.

15 Again, it's another big question that I don't
16 have an answer for.

17 DR. ERIKSSON: Steve.

18 DR. BERWICK: With regard to the suggestion that
19 maybe it would be better to suffer the cycles and let them
20 control themselves through boom and bust -- I'm paraphrasing.
21 I'm not sure that that grabs what you really meant. But
22 I wonder about -- and maybe some of the people who know this

1 area better than I could help -- whether the different genera-
2 tion times -- for example, if you go through extensive bust
3 cycles and you lose a lot of soil, whether you're going to be
4 in downward spiral of carrying capacity and eventually grazing
5 capacity, and eventually diddle yourself because pedogenesis
6 is a whole lot longer process than some of the things that
7 you're interested in with regard to --

8 And I don't know that that's a long-term good way
9 to go. We're fighting the same battles with the north
10 Yellowstone Elk. It's a range problem where these cycles
11 are claimed, on the one hand, to be natural, and on the
12 other hand people don't like leaving that alone. So it's a
13 question I have.

14 MR. CATTERSON: I couldn't agree more. I think
15 that what you need to do is you need to make the distinction
16 between drought and desertification. One feeds upon the
17 other, but vice versa. And I think that what you're talking
18 about -- and we all recognize -- any of us concerned with
19 the natural resources, indeed, with development in Africa,
20 that we're making time until we do something about the
21 population problem.

22 And how are you going to deal with desertification,

1 if you don't? I don't know. Because as the people expand,
2 the resource base will be increasingly degraded in the drought
3 years. Not only will you have to feed people, you have to
4 feed more people because of more exposure to the foibles
5 of trying to produce the food on the land that's left.

6 I think that you've got to address the livestock
7 range management issue as a long-term desertification issue.
8 You've got to avoid trying to create oases in the desert,
9 though.

10 I mean we can't do both. We can begin. We've got
11 to retreat on to the edge where it may be possible. We
12 need a sense of the perspective here. A sense of the perspec-
13 tive in my view is institution building, training, research,
14 and perhaps some pilot demonstration activities in places
15 where they can begin to work and begin to rekindle the
16 capability.

17 I'm not sure that that's all we need to do. I leave
18 that more to you all, but that seems to be the path that is
19 suggested to me.

20 DR. ERIKSSON: Ray, did you have a point?

21 MR. MEYER: I just wanted to raise a question.

22 Is there a strategy that you can use in Africa to help the

1 producer take advantage of the good years? In this country,
2 it's really the good years that let the people take care of
3 the bad years. You can keep your base operation at a certain
4 level during the bad years, take advantage and get that up
5 in the good years, and carry over again.

6 And I don't know if there is a strategy in these
7 countries that you can use that. But it certainly is, I think,
8 in most semi-arid regions that's what makes the system work.
9 Just keep that base at a certain level so that when you do
10 get a good year take advantage of it. And I don't know if
11 there is anything that works in these countries or not.

12 But it's a type of approach that I think needs to
13 be looked at.

14 DR. EVANS: I would submit that there probably is
15 if you have the rest of the infrastructure that deals with
16 marketing, transportation and other relative issues such as
17 that. I have not seen that in the small portion of Africa
18 that I've been in.

19 You could increase your production during the good
20 years, but how would you move them from the grazing lands
21 which tend to not be close to the major shipping points, get
22 them in one form or another there in a marketable shape.

1 If you have to trail them seven or 800 kilometers to
2 get them market, they're not going to be in good shape when
3 they get there.

4 DR. HOBEN: How are any livestock marketed?

5 DR. EVANS: Where I saw it they weren't.

6 DR. HOBEN: But in much of Africa, they are.

7 DR. EVANS: Most of the marketing was strictly on
8 the barter where they were dropped and traded right on the
9 spot where they were killed. They weren't, for example,
10 shipped out to Banjul because there was no trucking system.

11 DR. HOBEN: I'm sure you're right about your area.
12 But there's extensive areas with plenty of trade also, where
13 there is trucking.

14 I'm getting more pessimistic about the possibility
15 of reaching any consensus that will enable us to say some-
16 thing that our leaders would hear. But one point I'm
17 particularly pessimistic about is about half the people in
18 the room seem to be saying -- especially the ones who are
19 pushing for stability, and they're worried about increasing
20 production, are fundamentally convinced that animal and
21 human populations are increasing, and this is causing serious
22 degradation.

1 There are other people here who are equally
2 eminent who from their writing or conversation don't seem
3 to accept the obviousness of the data. One country again
4 is Somalia where there's been a big increase in production
5 in response to commercial opportunities, increase in stocking
6 levels which have been decried for 30 years now, even earlier.
7 British reports saying the land is all being degraded.

8 How we've had two droughts in the last decade or
9 so, and yet eminent people in this room tell me that neither
10 they nor the project working in the area has shown any
11 significant change in range condition, unless I'm misquoting
12 them.

13 But I'm not saying what's right, but it seems to
14 me that if we really don't know this kind of thing, we're not
15 in a very strong position to be advocating any kind of very
16 direct production activities, as opposed to the kind of
17 general research and institution building that we all agree
18 -- we all think that is nice.

19 DR. FOX: I don't like the pessimism that's going
20 around because I, for one, don't want to throw range live-
21 stock projects in the too-hard basket. You know, nobody said
22 it was easy. There's a lot that can be done, and the fact

1 that it is very complex and you get so many different views
2 around here makes it more difficult to get a handle on.

3 But it's not something that we just say it's too
4 hard so we back off and don't do it. I think there are things
5 that can be done, and we need to get on with doing them, I
6 think. And a lot of it centers around people, and there's
7 a long time frame on this.

8 One of the things we're looking at too short a
9 time frame on many of these and expecting wonders out of
10 this that's not going to happen.

11 DR. ERIKSSON: Well, Thad, where would you start
12 in terms of on the ground projects, that is application of
13 what we know?

14 DR. BOX: Well, I would start, as I said earlier,
15 first looking at the limiting factors. A lot of them we al-
16 ready know. Designing projects around to answer those
17 limiting factors, and then put those projects in countries
18 where there are personnel there that can handle them in the
19 government. I'd start with the easy ones, and go from the
20 easier ones progressively to the hard ones.

21 And I think that if I were to want to change the
22 world with range management, and I told Nyle this, and I

1 don't know how to say it without self-serving because I work
2 for a university, but I would start trying to pair up the
3 best range management project departments in this country
4 with the best intellectual universities and/or research
5 organizations in Africa on long-term commitments, and let
6 them set a lot of the agendas, as to what needs to be done
7 on a regional basis.

8 But I think to make progress you put money in
9 minds and in creative people, and not necessarily in the
10 governments. Now, I don't know how you would do this.
11 This is where I would start. I'd start with pairing up
12 groups to tackle regional problems, but hopefully that would
13 also tackle principles that would be applied across the
14 mountain.

15 DR. ERIKSSON: Well, in a sense, you're talking
16 about a form of institution building.

17 DR. BOX: It may be institutional tearing down.

18 DR. ERIKSSON: Attacking really policy issues, not
19 what -- if you'll pardon the term which bothers some of you
20 -- what we call project intervention. That is not out in the
21 field.

22 DR. BOX: A lot has been said today, and I got

1 from the way Nyle was nodding his head earlier, he wants some
2 recommendations about research, and he thinks research is
3 the way to go. Well, if you look at how research is done,
4 it's done by creative people without a whole lot of control
5 that know what the local problems are, and if you start
6 dictating what's to come out of a research organization it
7 usually isn't a very good research organization in the end.

8 DR. ERIKSSON: Joan.

9 MS. ATHERTON: I want to ask a couple of questions
10 about this approach, which seems to me to be saying that
11 maybe temporarily pack up the tools in the range manager's
12 kit and put them aside, and work first on other approaches,
13 which are strengthening personnel rather than directly
14 addressing the resource base.

15 Maybe I'm wrong in that, but along that line, first
16 of all I want to ask is there an identifiable cadre of
17 personnel, U.S. or otherwise, from which technical assistance
18 can be drawn to address Africa's problems? My sense is
19 that there is not that substantial a base; that we're looking
20 at it in this room.

21 DR. HEADY: Our society has over 6,000 members.

22 MS. ATHERTON: Yes. But how many of them really

1 can get out there --

2 DR. HEADY: Quite a lot.

3 MS. ATHERTON: -- get out there on the ground and
4 function?

5 DR. HEADY: Quite a lot. Quite a lot.

6 MS. ATHERTON: I mean this has been --

7 DR. HEADY: At least four or five of us.

8 (Laughter.)

9 MS. ATHERTON: I think that the project evaluations
10 have raised serious questions about that. Perhaps we've been
11 sent the worst rather than the best, but you know this has
12 been a consistent criticism in project evaluation.

13 Secondly, is the appropriate training for Africans
14 available, and I think that again is a serious question.
15 We trained them in our range management approaches which
16 included, you know -- which follows usually on a very much
17 more top-down educational system -- that they've come along
18 and they get back, and you know, there's a certain arrogance
19 about selection for certain problems and so forth which
20 obtains both in this country and overseas.

21 It seems to me that those questions do need to be
22 answered. Secondly, I think in terms of not quite working

1 directly with those tools is the extent to which we can
2 through development of infrastructure or policy analysis,
3 or what have you, basic education, do interventions which,
4 in effect, enhance local initiative, or the ability of local
5 initiative to, in fact, select from that kit, that range
6 management tool kit, and apply those things rather than
7 ourselves directly trying to, or trying to influence govern-
8 ments to do that.

9 To what extent should we be thinking about that as
10 our contribution to the management of these particular
11 areas? Those are two general questions. Anybody can answer
12 them.

13 DR. HOBEN: I just wanted to pick up the first one.
14 Earlier on, we were saying that these systems are complex,
15 and we talked about a variety of problems that fall into
16 five or ten disciplines, and yet American education, as we
17 know, is highly specialized, and it's very productive when
18 you have a researchable hard issue. But I share your
19 questioning about whether many institutions, a single
20 institution really combines the kinds of skills.

21 Yet I believe that this institution building is
22 important, but I would suggest that maybe the crisp type

1 notion, but one that clearly is not merely agricultural.
2 It maybe will have to include people who know about land
3 tenure, or people who know about people or whatever, some
4 frame work within which these people would work together
5 rather than just bringing Africans here, one of whom gets
6 trained in sociology at Cornell and another one goes to
7 range management and so forth.

8 I don't think at the moment -- I may be wrong --
9 that we really have the kind of educational research program
10 that would be particularly well-suited for the kind of
11 perspective that we're saying is needed for African
12 researchers and policymakers.

13 DR. BOX: I obviously would not be one of the
14 teachers that would teach these people because I couldn't
15 even communicate with you, Joan. I wasn't saying that we
16 should pull out of range management projects now or that we
17 should put these bag of tools aside at all. I think we have
18 to get on with a better understanding of the whole system
19 which I imagine research and training are only part of it.

20 One of my arguments for pairing up the best minds
21 here and the best minds either in a research organization
22 or university is that we learn from each other.

1 There may not be a U.S. university that could step
2 right into the role that we'd like to have now, but there
3 certainly with a long-term commitment between the two would
4 very quickly develop into it, and I could give you a short
5 list of several that I think are almost there now that have
6 had the opportunity to pair up with a good research organiza-
7 tion in Africa on a long-term commitment which means change
8 of staff and change of ideas that would be there more
9 quickly, I think, than most people realize.

10 DR. ERIKSSON: There would be pairing up to do
11 research together.

12 DR. BOX: Research, yes.

13 DR. HEADY: Teaching.

14 DR. COX: Teaching and research. Research and
15 training.

16 DR. HEADY: And to bring that university in Africa,
17 wherever, to a point where it's self-sufficient on its own.

18 DR. ERIKSSON: Well, a lot of grist for the mill
19 here.

20 DR. HOBEN: Can you summarize it all in half a
21 minute.

22 DR. BERWICK: Are you going to summarize that last

1 half hour?

2 DR. ERIKSSON: I'll do that upstairs. I guess
3 what I'm still having a hard time putting my finger on --
4 what I seem to be hearing, and this gets back to one of the
5 questions that Steve Sandford raised -- you feel that further
6 support to research is important. What's not clear to me
7 is what your recommendation is, if at all, how strong
8 your recommendation is with respect to continued support of
9 operational projects.

10 That is non-research projects, define them how
11 you will, projects which involve support for the application
12 of what we know.

13 DR. HOBEN: Could we begin with that?

14 DR. ERIKSSON: Let's begin with that, yes.

15 (Whereupon, at 3:00 p.m., the meeting was
16 recessed, to reconvene at 8:45 a.m., Tuesday, September
17 10, 1985.)

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AGENCY FOR INTERNATIONAL DEVELOPMENT

MEETING ON
EXTENSIVE LIVESTOCK DEVELOPMENT
IN SUB-SAHARAN AFRICA

Tuesday,
September 10, 1985

U.S. State Department
Room 6941

P A R T I C I P A N T S

PANEL MEMBERS:

DR. JOHN ERIK SON, Chairman

DR. GERALD THOMAS, New Mexico State University

DR. THAD BOX, Utah State University

DR. ALLAN HOBEN, Boston University

DR. STEPHEN SANDFORD, ILCA-Ethiopia

DR. NED RAUN, Winrock International

DR. A.J. DYE, Program Leader, OICD/TAD

DR. DIXIE SMITH, Forest Service

DR. GARY R. EVANS, USDA

DR. HAROLD HEADY, University of California

DR. STEPHEN BERWICK, IIED

ALSO PRESENT:

DALE HARPSTEAD, BIFAD/S

J.S. ROBINS, S&T/FA

RALPH CUMMINGS, JR., S&T/FA

MARCUS L. WINTER, AFR/TR/ARD

WARREN C. PUTMAN, S&T/AGR

JAMES F. JACKSON, USAID/Mali

P A R T I C I P A N T S

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ALSO PRESENT: (Continued)

ZACK VANDERRYN, S&T/EN

WILBUR G. THOMAS, USAID/Mali

T. M. CATTERSON, AFR/TR/SDP

C.E. HAINES, S&T/AGR/AP

TRID MUKHERJEE, ANE/ TR/AD

JOHN D. SULLIVAN, S&T/FENR

JOAN ATHERTON, PPC/PDPR/IP

RAYMOND MEYER, S&T/AGR

MOLLY KUX, S&T/FEMR

PATRICK FLEURET, AFR/DP

LARRY ABEL, AFT/TR/ARD

LAURIE MARSHALL, PPC/PB

RONALD V. CURTIS, S&T

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P R O C E E D I N G S

(8:45 a.m.)

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3 DR. ERIKSSON: Let's begin this morning. Yester-
4 day afternoon I understand the panel had an intensive session,
5 and I understand had a good follow-up discussion with Nyle
6 Brady later in the afternoon. So, Jerry, I wonder if I could
7 turn it over to you to start things off.

8 DR. THOMAS: Okay, gentlemen. We had a long day
9 yesterday and a short night. Thad and I got up about four
10 a.m. our time and we went back to work. What we would like
11 to do is kind of go through the oral report that we will
12 present to McPherson and get some interaction with you on
13 this report.

14 We do not have it in written form, and on purpose
15 we don't intend to put it in written form until later because
16 each of us hasn't had an opportunity to really look at these
17 recommendations in-depth.

18 We believe we have a consensus on these statements
19 that I will make, and at the outset I want to express the
20 thanks of the panel to the AID people for the background
21 documents, the information you supplied to us, and for the
22 opportunity to meet with you and to interact on what we

1 consider a very, very important subject and a very critical
2 question that AID is asking themselves and asking us in turn.

3 There is no question that the livestock sector in
4 Africa is important to both the economic and social structure
5 of the continent. Dr. Sandford estimates that 50 to 60 per-
6 cent of all the livestock are in the dryer regions, but if
7 you look strictly at purely pastoral systems about 20 percent
8 of the livestock are in what we might call purely pastoral
9 systems.

10 So the majority of the livestock have some inter-
11 actions and complicated interactions with cropland, and must
12 be examined as a part of the total system. The AID background
13 papers indicate that livestock account for about a third of
14 the total GDP, and they've cited in these documents, of
15 course, the importance of other aspects of livestock besides
16 just meat production: social, religious aspects, the trans-
17 port, fiber, animal traction, and a lot of other kinds of
18 things.

19 Some of the studies have shown that the livestock
20 sector, as a whole, has done better in measures of production
21 than the grain sector. The dryer countries have done about
22 as well as the other African countries.

This might be questioned, but Steve, I haven't

1 looked at the source of this information, but he's our
2 authority on that right now. So we're making that statement.

3 DR. HOBEN: It's right there.

4 DR. THOMAS: Some of the positive outputs that can
5 be cited in this sector, of course, are good progress in
6 animal health and vaccination programs, improvements in
7 livestock distribution and range utilization through the
8 development of water supplies.

9 There are more trained people in the country. I'll
10 say more about that later because we still feel there is a
11 tremendous shortage of people trained in this particular
12 subject-matter area.

13 There's a much better information base. We know
14 more about the vegetation, soils and social and economic
15 systems even though there are deficiencies in this area.
16 There is a more realistic understanding of how these systems
17 interact. And there is some improvement in country infra-
18 structure as relates to this sector.

19 We believe that other improvements are possible and
20 can be cost effective. One major area that we've agreed on
21 that needs increased emphasis in all livestock sector
22 planning, and that is the need for more and better training

1 in range management, ecology and social systems that relate
2 to this sector. We think that every program should concen-
3 trate on building a corps of trained personnel and look more
4 carefully at building institutions, particularly those re-
5 lated to research and education.

6 The panel believes that there is a component,
7 perhaps a major component, of the process of desertification
8 that is due to geologic or climatic change that is beyond
9 the control of man. We have to live with it. But we are
10 concerned and have to remain concerned about man-caused or
11 man-accelerated desertification, and feel that all livestock
12 range projects should consider this as a part of the planning
13 and project design.

14 We spent a great deal of time both in the inter-
15 action with you people and later on talking about questions
16 related to the design and output of projects. We feel that
17 the projects are going to have to be more carefully designed
18 with more careful definition of the outputs expected, the
19 objectives, as they relate to all three elements in the
20 discussion document that was distributed to us.

21 What aspects of production and income should be
22 identified? How to identify those? What are the social

1 and political concerns and outputs expected from the project,
2 and what are the environmental concerns. So within each of
3 these three, we need to pay more attention to identifying
4 specific measures of progress, and perhaps simplifying the
5 project.

6 One statement that we came up with was the project
7 should be simple enough to be managed, should be adequately
8 flexible, should have adequate and properly trained staff,
9 and should build in some long-range strategies.

10 Planning for drought must be a major part of each
11 program and project. The major disruptions that occur at
12 these times tend to negate all the progress made during the
13 good years, and the cost of dealing with results of drought
14 such as the one we've had -- just experiencing -- far exceed
15 the cost of program and project development that are aimed
16 at moderating or alleviating these effects.

17 If we don't plan now for the next drought it will
18 be even more disastrous than the one we've just experienced.
19 We believe that a systems approach to research is essential,
20 involving an interdisciplinary team to take into considera-
21 tion the interrelationships between crops, livestock, between
22 cultivation and uncultivated range lands, between livestock

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1 and forestry, and particularly wood production, and the
2 utilization of brush in the grazing sector, between livestock
3 and other biological populations such as insects and wildlife
4 and other things, looking at livestock and water yield and
5 proper attention to the people side of the equation -- social
6 aspects, the desires of the people.

7 And as Dr. Box stated, we keep coming back to such
8 questions as, "What can the land produce?" and "What do the
9 people want and need from the land, and how do they inter-
10 act in bringing about these expected outputs?" How do we
11 balance the multiple objectives: social, economic, and
12 ecological?

13 And then more specifically, as far as a project/
14 program design are concerned, we listed the importance of
15 sustained support over long periods of time, particularly
16 attention to recurrent costs. More emphasis on training
17 and institution building, developing a better technological
18 base, adequate understanding of the end-country policies
19 and international policies that affect the agricultural
20 sector.

21 And in relation to policies in the discussion here,
22 and we believe that this is true that we ought to be more

1 cognizant of the policies that are in place, and not antici-
2 pate changes, but in looking at those policies that are in
3 place and designing around those policies, we have to be
4 cognizant of the fact that those policies will change as a
5 drought hits. So we have to kind of anticipate that in the
6 policy sector as well as in the environmental sector.

7 And we emphasized the need for long-range planning,
8 for livestock projects the need for sustained support, for
9 long-term relationships between scientists, universities
10 and other counterparts in the country.

11 We somehow or other need to improve the communica-
12 tions and the coordination between the scientific disciplines
13 in the country to try to prevent the isolation that we see
14 so often from our counterparts in the rest of the profession.

15 In the area of research and building the technologi-
16 cal base we separate somewhat arbitrarily but with some
17 reason also the extremely dry areas from the moderate rain-
18 fall, the higher rainfall areas.

19 For example, it appears that somewhere, perhaps
20 around the 400 millimeter level, below that point there is
21 really little chance of improving the primary productivity,
22 particularly in the Sahel so the concentration there would

1 have to be on diverting more of it to man, primarily through
2 the livestock sector.

3 Above the 400 millimeter level there is possibility
4 for both improving primary productivity as well as the
5 efficiency of the transfer of biomass to man. Here, of
6 course, we can't anticipate in primary productivity any
7 quantum leaps in increase, but there is a potential for
8 some increase.

9 The major area of concentration should be in look-
10 ing at the system to see how that biomass flows to man,
11 looking at wildlife-livestock relationships, or livestock,
12 forestry, wood production and possibilities for changing
13 vegetation concentration, particularly looking at legumes,
14 both herbaceous and woody species, legumes, looking at
15 livestock management to try to maybe look at the earlier
16 harvesting of livestock, different kinds of systems which
17 might improve the off-take. Animal health, nutrition,
18 definitely looking at nutrient cycling and looking at
19 water efficiency. How do we make better use of the rainfall
20 that is available in the area.

21 The publication on the new approaches to research
22 which AID is circulating and adopting would fit well into

1 the approaches that we would take to research in the livestock
2 sector. We can do some networking, some regional approaches.
3 I think this concept would fit well.

4 There is one item in that report that refers to
5 forages. There is not any specific mention of extensive
6 livestock, but maybe we could get that in there some way or
7 other, or we could expand that section on forages to include
8 all kinds of -- including more about the livestock sector.

9 But the concept in that document is good, and we
10 agree with it in general. Now, I guess some other members
11 of the group may want to add to this or enlarge on this list,
12 but we want to go back and summarize by going back to the
13 question that was posed in Dr. Brady's letter, and very
14 shocking in some respects, "Should AID try to promote
15 development of sustainable, extensive livestock production
16 systems in Africa?"

17 That's a very challenging question. Our conclusion
18 is definitely yes.

19 DR. ERIKSSON: Thank you very much, Gerald, for a
20 comprehensive review and set of conclusions. I wonder if
21 other -- before we open it to general discussion -- other
22 members of the group of experts might have additional

1 comments, refinements, elaborations. Ned Raun.

2 DR. RAUN: First of all, I would like to compliment
3 you two people for doing not just an excellent but a superb
4 job in putting this together. I think it's organized. It
5 flows nicely. I think it reflects the views of this panel,
6 so our thanks and compliments to you.

7 I have only two things that I would like to say.
8 One is in the section where you refer to the systems approach.
9 You do that very well. You don't just say use the systems
10 approach. If you stop there, then that's going to not influ-
11 ence people. But you have described then what you're talking
12 about when you talk about the systems approach.

13 The only comment I would have to make is one that
14 both of you actually made yesterday, and that is that these
15 range livestock, or extensive livestock production systems
16 that we're talking about, that these are not just extensive
17 range livestock systems that stand alone.

18 I think people get trapped in that continually.
19 They think, okay, well, that's just all off there by itself.
20 We can isolate that. But I believe here that the comments
21 we had yesterday, and the information that was presented
22 emphasized the fact that these interface with, interact with,

1 or involved with subsistence crops, cropping systems in one
2 way or another. Another one that comes -- I think that
3 really emphasized the point -- is the data that Stephen has
4 provided. He said 50 to 55 to 60 percent of the animals
5 are in arid and semi-arid lands.

6 Twenty percent of those are in strictly pastoral
7 systems. What about that other 40 to 45 percentage points?
8 Where are they? I think the answer is obvious. I think
9 that emphasizes the point that these are systems that relate
10 to, are integral to, interact directly with, are vital to
11 systems that involve crops.

12 Now maybe crops people don't like to look at it
13 that way, but I sort of believe that's the way it is. The
14 other comment I would make is this. That there are various
15 alternatives. One alternative is to have an action program
16 to do what you can, to bring about improvements in these
17 extensive livestock production systems.

18 The other extreme is to say, well, yes, we know
19 they're there. We know they're important, but our position
20 is going to be that we are not going to concern ourselves
21 with those systems.

22 All right. If that is the decision that you choose

21

1 to make, fine. But I believe in doing that, then, the people
2 who make those decisions have to take into account what the
3 consequences would be with respect to production from that
4 resource base, as related to income from that resource base,
5 and then the other one is what happens to that land and
6 renewable resource base.

7 Those are the two things that I would like to add.

8 DR. ERIKSSON: Steve.

9 DR. SANDFORD: I'd like to make one correction
10 and comment. The correction is the figure you quote of
11 livestock being 30 percent of total GDP can't be right.
12 It's about 20 percent of total agricultural GDP so I'm not
13 sure where the 30 came in the comment.

14 DR. THOMAS: It came from their document.

15 DR. SANDFORD: Okay. Well, conceivably it might
16 be 20 or 30 percent in some countries of total agricultural,
17 or on an average of total agricultural, but it's high. It
18 couldn't be of total GDP.

19 DR. BERWICK: I believe that's what it said. In
20 some countries it was up to 30 percent.

21 DR. ERIKSSON: It was in the review or the livestock
22 policy paper?

1 DR. SANDFORD: In many countries livestock is one-
2 third of agricultural GDP. That's the bit -- you left out
3 agricultural.

4 The other is a comment which is really about the
5 importance of technology. I believe the cause for our
6 failure in many projects has been inadequate technological
7 base which you don't contradict, but I would like you to
8 stress it more. And to stress again that we believe that
9 there are technological advances which can be found for
10 the dry areas. A lot of people believe that can't be, and
11 I would just like to emphasize it further. We believe there
12 are technological leap-forwards which can be made, and then
13 we'll debate some of the ways. But I would just like to
14 stress that further.

15 DR. ERIKSSON: The point being that -- well, is
16 it a point that adequate technology was available somewhere
17 else but wasn't applied, or simply that more research has to
18 be done?

19 DR. SANDFORD: Essentially more research. In some
20 cases, actually, of a fairly basic nature.

21 DR. ERIKSSON: Okay. Other comments?

22 DR. HEADY: I think I'd like to add one. Of

1 course, as we go around, I'm anxious to get the input from
2 everybody else here, and we could make a lot more details,
3 Jerry, in everything that's been said.

4 But there's a couple of areas in that systems
5 approach that I think should be mentioned, and one of them
6 is the forestry side, what is commonly now called agrifores-
7 try. That brings in a dimension of another discipline,
8 and a good deal more expertise into helping that system
9 work.

10 And I might say the same thing for the forage-
11 legume side, too, particularly the work that has been done
12 in some of Australia and some other country.

13 I think that's all that I have to add.

14 DR. ERIKSSON: Okay. Thank you. Other members
15 of the panel? Let me open it up. Yes, Thad.

16 DR. BOX: Well, I want to -- more emphasis than
17 anything else that I think we are strong, but we need some
18 sort of long-term commitment that because things happen
19 slowly in dry areas, and a long-term, close association
20 between donor and development countries that we think is
21 essential.

22 We all agree that the range livestock area is

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1 complex, but it's not too hard, and we shouldn't back away
2 from it just because it is too hard. There are some things
3 that we can do now, as Gerald mentioned, and that we need to
4 develop our technological base even farther.

5 We think that the best approach is to understand
6 the system, and then pick action areas within that system
7 where we have a good chance of success and be flexible in
8 those approaches so that we can change as we learn, and
9 then finally -- and, again, for emphasis -- develop both
10 the technological base and people.

11 And if we have a long-term commitment to do this,
12 we think that there's a real good chance for success.

13 DR. ERIKSSON: Okay. We have -- I understand
14 Jim Jackson is here from -- where?

15 DR. JACKSON: East side, Mali.

16 DR. ERIKSSON: East side, Mali. So are you on home
17 leave or consultations?

18 DR. JACKSON: R&R.

19 DR. ERIKSSON: R&R, okay. Well-deserved, I'm sure.
20 But out there on the front lines in dealing with livestock
21 activities. We certainly welcome any comment or action that
22 you might make. I understand you were at a meeting with

21

1 the Administrator in his recent visit, or his visit last
2 spring to the Sahel where livestock was discussed.

3 DR. JACKSON: Yes. I got to talk to him about five
4 minutes. Vice-President Bush visited Mali.

5 DR. ERIKSSON: You recall -- I'm sure we'll
6 be hearing directly this morning, but anything stick out in
7 your mind in terms of his views about this area, his con-
8 cerns?

9 DR. JACKSON: When I was introduced to him, his
10 opening comment was something like none of the livestock
11 projects are working, and you ought to get out of all of
12 them.

13 (Laughter.)

14 DR. JACKSON: And he said, well, what do you think
15 of that. You know -- when you first meet a guy -- I
16 think -- I don't want to go into detail on Mali. I mean it
17 got hit very hard, I think, in evaluation and audit reports
18 for a previous project. We did a lot with range management
19 and trying to develop pastoral systems.

20 We found that wasn't working. So when we redesigned
21 the second project which has been working now for about three
22 years we got out of all our range management aspects, and

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1 are doing quite a bit in increasing the management and the
2 infrastructure at the national level.

3 DR. ERIKSSON: Including entities that are responsi-
4 ble for range management?

5 DR. JACKSON: Pardon?

6 DR. ERIKSSON: Including institutions that are
7 responsible for range management?

8 DR. JACKSON: We're working with the Ministry of
9 Rural Development which is charged with that. Not directly
10 but indirectly we have a lot of their reaction.

11 We're doing continued work in animal health. Mali
12 is a country where the donors have more or less split up
13 the areas. World Bank, for example, is in the fifth region.
14 AID is presently in first and second region working in the
15 field level with the field personnel.

16 We're into the research. ILCA has basically a
17 cooperative grant with us to do the forage system type
18 research. We have a small farmer feeding credit program
19 which is essentially coming along. Then we continually
20 support the vaccine production efforts.

21 The only lab in Africa, if I'm not mistaken, or
22 maybe in that part of Africa anyway, in western Africa, is

1 basically U.S. supported with U.S. equipment, et cetera.
2 But my comment to Mr. McPherson was that I felt that we
3 needed to sort of look at each of the livestock projects,
4 and you couldn't tie in all aspects of it -- animal health,
5 range management. I haven't heard anybody mention market-
6 ing. I think that's something that maybe we need to take a
7 look at.

8 The auditors are not livestock people, nor are they
9 experts in economics, but they did point out that in the
10 Sahel they felt there was a large marketing problem basically.
11 As we produced all these animals in these lower rainfall areas
12 there's a question of where those animals are going to be
13 marketed.

14 And it appears that maybe some of the coastal
15 areas such as Ivory Coast or some of the others are going
16 to be continually saturated in import beef from European
17 countries.

18 But I didn't hear anything on that at all. It's a
19 difficult question. You have a divisional system, and then
20 you have a group system and how you get them together.

21 DR. ERIKSON: We had a little discussion of that
22 here yesterday, but I think it is a valid point, and in fact,

1 Mr. Mukherjee was indicating to me afterwards that for
2 precisely that geographical example we need to be -- when
3 we talk about the inner country problem, it's not just in the
4 same ecological zone, but in that case it's between countries
5 in different ecological zones, the ones where the production
6 sources centers are and the ones where the main markets are,
7 economic markets are, are in different ecological zones.

8 And the connection is really an economic one in
9 that case rather than an ecological one. Jack Sullivan.

10 MR. SULLIVAN: Our Mali connection brought up an
11 interesting description there briefly about multi-donor.
12 We've used the term "split-up" Mali. Did this group address
13 the complexities that are involved with the multi-donor
14 issues?

15 DR. BOX: We did sort of indirectly in that we
16 said that one of the reasons -- or though livestock projects
17 are perceived in stages, a lot of the reasons they fail are
18 the same as any other project which would involve multi-
19 donors, project design, a whole lot of things that you could
20 say about a great project as well as you could say about a
21 livestock project. But we didn't get into detail.

22 But they just come with the turf for a lot of it.

1 DR. THOMAS: But we need to ask the question in
2 Mali, for example, Jim, if AID is out of the range management
3 aspects is anybody else doing anything in that sector?

4 DR. JACKSON: Yes. The Saudis are putting a lot
5 of money into the northern portion of Mali that runs along
6 the Mauritanian border, for example, that goes across before
7 it turns north -- goes up toward Timbuktu. The World Bank
8 is in what you call Odim (phonetic) which is up in the
9 fifth region.

10 DR. ERIKSSON: What led to the mission decision
11 to get out of the range management side of livestock in
12 Mali?

13 DR. JACKSON: Well, basically they got hit by the
14 auditors very hard for not doing anything, not accomplishing
15 goals.

16 DR. ERIKSSON: Not accomplishing the project
17 objectives in that --

18 DR. JACKSON: And what they were sent out to do.

19 DR. HOBEN: For not accomplishing anything or
20 not accomplishing unrealistic objectives, in your view?

21 DR. JACKSON: For not accomplishing unrealistic
22 objectives. They have accomplished something. It took

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1 longer than what they thought. I'll give you one example.
2 After the thing was over, we have a pastoral zone called
3 "Billy". We tried to reprogram some of the funds that were
4 left in the project, primarily it happened -- let's see --
5 it would have been '83 because they have quite a bit of
6 grass there but no water.

7 So we give them a little money, and they developed
8 some of the wells that had already been put in and completed
9 some of this work. In late '83-'84, a lot of the villages
10 in that area -- not a lot -- but we're talking four or five
11 different areas where some of these wells had been put in --
12 were actually charging a fee for use of the water.

13 You get a lot of animals come down out of
14 Mauritania plus their own animals. And I was in the office
15 of the director of the whole region up there one day, and
16 a guy came in from up there, and had brought money down to
17 buy some repair parts for one of the pumps. I think he was
18 from the village. So I was rather encouraged that something
19 like happened because that's what we've been trying to get
20 these people to do, is to take over the management and
21 everything else.

22 It wasn't until we actually got out of the project,

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1 and given the limited amount of money, and said, well, it's
2 yours; you are getting no more support, that some of this
3 actually came about.

4 You can't forget that there was a lot of work done
5 prior to this. This just didn't happen.

6 DR. BOX: What has happened as far as institutional
7 residue in Mali in range management? I know that not only
8 AID but a lot of other donors have put a lot of money in
9 Mali over the years and trained a lot of people. Is there a
10 government agency? Is there any sort of unified approach
11 to range management? I guess what has happened to our
12 people investment in going beyond AID? What World Bank,
13 FAO, ILCA and others have done? What's the state of range
14 management in Mali I guess is what I'm asking?

15 DR. JACKSON: Well, I'd have to say that I think a
16 lot of the money that has been spent people are just now
17 returning.

18 DR. BOX: Is there a place for them? Is there an
19 institutional --

20 DR. JACKSON: No, there is no -- they fit in
21 somewhere within the Ministry. There is no unit or anything
22 else like that called a range management office, or Bureau of

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1 Land Affairs or anything else. They come back and they're
2 put in, but it's only been recently that a lot of these
3 people are coming back. So what will happen in the future
4 I don't know.

5 DR. ERIKSSON: Well, one conclusion one might infer
6 from this is it may well have been a case of rather short
7 versus long-term commitment. Wilbur and Larry Abel.

8 MR. THOMAS: I have one question for the panel.
9 The current livestock strategy that has been adopted for
10 the Africa Bureau, do you think it's fairly adequate in
11 addition to your comments, or would you suggest substantive
12 changes to that strategy?

13 DR. SANDFORD: I think it's a rather good document.
14 I think it's a very good document actually. The only thing
15 is I would reemphasize again the question of having adequate
16 technological bases before you intervene. Otherwise, I think
17 that's a good document.

18 DR. ERIKSSON: Larry Abel.

19 MR. ABEL: I just wanted to add that in the case
20 of the earlier Mali project, it was not just audit findings
21 that were extremely negative about the work in the pastoral,
22 perimeters of the pastoral areas, the extensive systems.

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1 It was also a series of major in-depth project evaluations
2 that were done by the more technical, or the sociological
3 environmental evaluations also.

4 It was not just --

5 DR. JACKSON: I thought I said evaluations and
6 audit.

7 MR. ABEL: Okay. I just wanted to clarify. I
8 thought you had said that it was auditors without the
9 technical expertise. But I mean it was also a series of
10 technical evaluations of the project that were quite negative.

11 DR. ERIKSSON: Steve Sandford.

12 DR. SANDFORD: I would like to follow up on a
13 point both raised by Dr. Jackson and more obliquely by Thad
14 Box. The problems which have confronted livestock projects
15 which have caused some of our failures are, in a sense,
16 exactly the same sort of problems which have confronted
17 agricultural projects, yet both in AID and in the World Bank
18 the livestock projects on the whole have a slightly worse
19 record than the agricultural projects.

20 So there is something special about them although
21 in general the problems are the same broad kinds of problems.
22 So why should livestock have done better? Well, I've already



1 said three times technological bases. I'm sure they have a
2 weaker technological base which is set forth. I think we
3 can do something about it.

4 But the other one is, in fact, this question of
5 prices and marketing. A lot of these projects were originally
6 conceived in the early '70's. Livestock prices in the world
7 markets were rising, and we were all strongly influenced by
8 the idea of the high income elasticity of demand. As African
9 incomes go up, they're going to spend a high proportion of
10 the increase on livestock products.

11 Well, two things have happened. Firstly, we've
12 had a complete change in the international market where
13 Europe far from being an importer has become a dumper all
14 around the world. And you raise that problem up of Ivory
15 Coast.

16 And secondly, African incomes have not risen.
17 And the high income elasticity of demand which we looked as
18 a positive factor is now working the other way around. It's
19 actually working as a negative factor on this.

20 So what do we conclude from this? I suppose we
21 all have to believe, otherwise we better get out of the
22 game, that African incomes are going to start climbing again

1 in which case the income elasticity demand then comes back
2 again. Prices will improve relatively.

3 The world market again I'm not up in this. I
4 guess that you chaps in the end will force the European eco-
5 nomic community which are the rogues in international markets
6 to adjust their trading policies, and although it may still be
7 that the Sahelians will have to compete against imports from
8 Latin America, my guess is that the imports will be sold,
9 as it were, at realistic economic prices rather than dumping
10 prices which is what's happening at the moment.

11 DR. ERIKSSON: Interesting. Steve Berwick.

12 DR. BERWICK: Yes. Getting back to the livestock
13 assistant strategy paper that you were mentioning. I found
14 this was very interesting to read. It was very thoughtful and
15 well-done, and in one instance it mentions AID's own lack
16 of knowledge as well as the nature of the biological cycle
17 of livestock under African conditions.

18 But it goes on to emphasize, I guess, the parts of
19 the range livestock system which could benefit most which
20 are most removed from the natural part of the system although
21 it mentions this problem with the natural system.

22 And I would guess there is a kind of gravity flow

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1 thing here. These natural resource base pieces, the eco-
2 system management part is always the most demanding. I mean
3 it's the least controllable so I guess by gravity flow I'd
4 say that that's possibly why some of the success is noted
5 in this in the veterinary field and so on are so striking,
6 and some of the difficulties with the natural base, you know,
7 it looks like such a void.

8 I guess that some attention to what to do about
9 this fairly intractable problem about the resource base
10 would make it a little more well-rounded or complete.

11 DR. ERIKSSON: Yes. Larry.

12 MR. ABEL: Yes. I had noticed that that was not
13 in Dr. Thomas' comments there, and I was wondering whether
14 there were more discussion of that late yesterday afternoon.
15 You know, perhaps more focus on the natural resources, the
16 range land, the water facilities, and conservation of the
17 ecology and the environment as opposed to direct attention
18 and focus on the livestock or on the people.

19 I'd just like for someone to maybe say some more
20 about the --

21 DR. ERIKSSON: Is this related to that point, Joan?

22 MS. ATHERTON: Yes. I want to approach the question

1 of adequate technological base a little bit and ask about
2 criteria for that because I think it's very much related
3 to discussion of what you do first. Do you try to go after
4 the most intractable problem of the natural resource base?
5 Do you push on animal production side which is, in fact,
6 one of the weakest points at the moment?

7 How to prioritize it? What's the role of risk
8 in minimizing the problems? I think there's a very large
9 role in what producers now choose to adopt. What research
10 things get attention first, second and third, prioritizing
11 our choices, in other words.

12 DR. ERIKSSON: Gary.

13 DR. EVANS: Let me leap in. To begin with here,
14 we've discussed quite a bit the problem of dealing with the
15 natural ecosystems especially as you move more toward the
16 more arid end of it. One of the intractable problems we
17 kept running up against are the time limits that are designed
18 into various projects: the three year, the five year, and
19 at the maximum ten year projects.

20 And you're dealing with ecosystems that sometimes
21 take upwards of 50 years to see a significant change. And
22 we in our discussions felt that perhaps some of these perceived

1 failures in the change in the ecosystem are, in fact, waiting
2 for the change to come about, and yet the project has been
3 totally dropped because in the audit it did not show the
4 planned changes.

5 That's why the specific question to Mali that was
6 the objective an unreasonable objective given what had been
7 intended. I'm going to defer the adequate technology base
8 to Steve because I think his perception is much keener than
9 the rest of ours.

10 DR. ERIKSSON: Okay. Allan, did you want to make
11 a point?

12 DR. HOBEN: Yes, to Larry, I think. I think in all
13 frankness there is some division of expert opinion on the
14 extent of which pastoral systems in dry areas inherently, or
15 in fact, have caused irreversible degradation.

16 I think that division of expert opinion -- which is
17 noted in the letter of Nyle Brady to us -- remains, and it's
18 probably one reason -- not that it's an unimportant issue,
19 but it's probably why it's not right at the top.

20 DR. ERIKSSON: Does that division occur because
21 people are looking at different geographical areas, or even
22 when looking at the same subregion?

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1 DR. HOBEN: Well, somewhat both, but even in the
2 same area people do look at it -- it may depend on their
3 training and where they go, how far from roads, and so
4 on. I don't think we can recapitulate it, but there is a
5 division.

6 DR. ERIKSSON: Yes.

7 DR. THOMAS: Perhaps in the discussion we have on
8 the technological base looking at primary productivity and
9 the flow of that productivity to man we should make a
10 stronger statement which says, in effect, that the basis for
11 all the production has to be the vegetation and the resource.
12 And so that's where you start looking in the technological
13 base.

14 You look to see how you can change and improve
15 that vegetation that's out there, and then you look at ways
16 to distribute that, and maybe we ought to emphasize that a
17 little more. I just made some assumptions when I started
18 talking about primary productivity.

19 But everything you do from there on depends on
20 what you start with.

21 DR. BOX: As usual, Gerald said what I wanted to
22 say, only said it better, but being a college professor,

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1 I'll probably say it again anyway. In answer to Joan's
2 question, I don't think we intended at all to slight the
3 resource base when we were talking about expanding our
4 technological base.

5 In my simple way of thinking, as I said yesterday,
6 I think we first have to understand what the basic producing
7 ability of the base is, what people want out of it, and in
8 how you get it.

9 Now one of the things that I had been critical of
10 as a lot of other people about range projects is that they
11 spent an awful lot of time measuring things without doing
12 anything so when we're talking about understanding the
13 natural resource base, we're not talking about a lot of
14 surveys, counting things that we don't know how will be
15 used.

16 What we're talking about is expanding the technolo-
17 gical base by looking at basic limiting factors, trying to
18 find out what is limiting production in the area, and looking
19 more at function of ecosystems rather than structure of
20 ecosystems. To try to find out what within the system, what
21 are the functions, how can you change those functions to
22 reach a goal.

23

1 Now, we're not -- whatever that goal is -- whether
2 it's producing frankincense and myrrh, or whether it is
3 producing livestock or something else. Once we know what
4 those goals are, and know the function of the system, and
5 understand it well enough, then I think you can design a
6 project to get there. But I hope that we, in looking at the
7 technological base, I think you start with the basic pro-
8 ductivity of the system.

9 DR. HOBEN: Can I add a comment on Joan's
10 question. On your question about whether we were concerned
11 with risk from the point of view of producers, and how that
12 might affect the way that they regarded new technologies,
13 I think yes. And the way we really slipped it in is to say
14 that in the institution of building and training we see as
15 a long range and important activity, not just building a
16 school and training 20 people.

17 But there has to include an integrated group of
18 not only biological scientists but social scientists. That's
19 an accepted point in the group, and, in fact, Mr. Brady
20 made the point, too. Be sure not to forget the social
21 scientist.

22 MS. ATHERTON: It was reemphasized by this market

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1 issue which Steve mentioned. Markets haven't done exactly
 2 what we anticipated that they would do. And thus, a lot of
 3 producers had adopted the things that we had been pushing,
 4 and then were stuck with a lot of animals, and they know
 5 this.

6 What I think I'm looking for is if we're going to
 7 do research, and how to decide on technical base, at the same
 8 time you have to be cognizant of what the heck is going to
 9 happen to the supply. You know the history of our projects
 10 is one of supply, and not looking at what other factors in
 11 the system may develop.

12 DR. ERIKSSON: Steve.

13 DR. SANDFORD: I'd like to come back to the question
 14 -- no, we didn't spend a lot of time yesterday thinking about
 15 criteria as a choice of choosing -- risk as a criteria for
 16 choosing one thing.

17 In fact, not a great deal has been done on looking
 18 at the riskiness of African livestock technology. We've got
 19 some work done in ILCA which was essentially looking at the
 20 impact of income variations of introducing livestock into a
 21 non-livestock economy.

22 But in terms of choosing one technology rather than

1 another, no, we haven't done anything. If I could make just
2 one comment, though. The farther you go down the ecological
3 range into the dryer areas, the more I suspect that the
4 natural fluctuations are going to outweigh the other ones
5 by such a big amount that I don't know that this is so im-
6 portant.

7 But once you get down to 400 millimeters, we're
8 talking about coefficients of variation of annual rainfall
9 of the order of 40 percent which is roughly the same amount
10 in dry matter. And that's probably going to -- with that
11 kind of risk, it's going to continue to be, I guess, more
12 important. I don't want to run it -- move it out all
13 together.

14 Basically we haven't done much with it.

15 MS. ATHERTON: But conceivably that could be a
16 kind of criterion is this 400 millimeter rainfall.

17 DR. ERIKSSON: Well, and I think I heard that
18 criterion used in some sense.

19 MS. ATHERTON: Yes.

20 DR. ERIKSSON: In terms of whether you look for
21 approaches that would enhance productivity or attempt to
22 maintain the stability of the resource of the system; right.

1 DR. THOMAS: In the few minutes that are remaining,
2 I wondered if we could get some advice from you and the other
3 people on what we as a panel need to do in terms of a follow
4 up report, and what the thrust of this report should be.
5 Now we didn't intend and couldn't in a two day period to
6 answer all of the questions that everyone was interested in.

7 And many of the questions and the comments that have
8 been raised are contained in some of the very good background
9 documents that we have so it's already in the papers that
10 AID has produced.

11 We need now to know from you where should we go
12 from here, and what are your expectations of us from here on.

13 DR. ERIKSSON: Well, of course, the meeting with
14 the Administrator will be a crucial outcome, but beyond that
15 I think it would be very desirable to have a written-up
16 version of your presentation, your summary presentation.

17 If that can be written out we can certainly help
18 with that in terms of --

19 DR. HEADY: Can we get that out of this machine?

20 DR. ERIKSSON: Well, that's true. We will eventual-
21 ly have the stenographic record which includes your oral
22 presentation this morning.

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1 DR. THOMAS: The first draft of this is the only
2 one that's going to be read. And I would like to have that
3 draft run by the people that are part of the panel so I think
4 that we owe it to ourselves to draft this, circulate it before
5 we turn it over to AID.

6 Now I've been in administration long enough to know
7 that any revisions generally are not going to be looked at.
8 It's going to be what you say in that first document. I'd
9 like to have that document be pretty much a consensus of what
10 the people think.

11 DR. HEADY: You have to get a rough draft to begin
12 with. And your oral presentation typed up is what I'm re-
13 ferring to.

14 DR. THOMAS: I've got it here pretty well. But
15 those are the special pieces, but anything we put out with
16 the panel's name on it, I think ought to -- we owe it to the
17 panel members to run it by them. That's my idea.

18 DR. HEADY: You promise to get it to us, then, to
19 pass around.

20 DR. THOMAS: And get it back to AID.

21 DR. ERIKSSON: When might we expect the transcript
22 of the proceedings.

1 REPORTER: They tell me two to three weeks.

2 DR. ERIKSSON: Well, as soon as possible, but just
3 so that we have an idea.

4 REPORTER: You can have it expedited, I'm sure.

5 DR. THOMAS: I can get my draft to all of you to
6 enlarge relatively shortly.

7 DR. BOX: I want to say something as a range
8 manager and as a taxpayer, and I'm not sure whether the panel
9 would agree with me or not. But 20 years from now when another
10 group comes together to discuss the same thing, and none of
11 us are here, what I would really like to have happen out of
12 the money we're putting in range livestock projects is to
13 develop a body of knowledge about range livestock production
14 in Africa, and have people in place in Africa who know how
15 to use that knowledge.

16 Now, if we do that everything else that we've said
17 is unimportant, and I think those should be our major goals
18 is to have a body of knowledge there than anybody can use,
19 and people in place who know how to use it.

20 DR. RAUN: Second that.

21 DR. ERIKSSON: That comes through loud and clear,
22 and I think we'll make that point very strongly later this

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1 morning. Trid.

2 DR. MUKHERJEE: I have a couple of things. One
3 is we are looking at livestock in isolation of the general
4 agricultural production and productivity in the country.
5 Africa is a continent where agricultural production is
6 declining so livestock production is not keeping up with
7 the population increase or our investment. That's not
8 surprising when you take a look at the background.

9 In a continent where our adversity is as mighty
10 as Mother Nature. Plus we have a pricing policy, a
11 subsidy policy, market barriers, barriers to entry within
12 the country and between countries.

13 Another thing -- the bottom line is will the farmers
14 produce any produce including livestock. The bottom line
15 is always whether he makes any profit. If he does, he will
16 figure out ways of producing it. If he doesn't, someone else
17 will.

18 So then management and production has to be tied
19 up with the demand side, as was mentioned, and this is where
20 the marketing and storage and transportation come in, at
21 least in West Africa. And you don't have to reinvent the
22 wheel. It has been studied thoroughly, just a few years

23

1 ago. Maybe we can update it. We noticed that the coastal
2 countries where there is an excess demand could be at least
3 partially matched or paid by the surplus production of live-
4 stock in some landlocked countries in Sahel, primarily Mali,
5 Upper Volta, whatever the new name is, Niger, and also
6 Mauritania.

7 You have some based excess demand area like Lagos,
8 et cetera. There was a time when the private investors were
9 shipping, were flying carcass meat from Upper Volta -- well,
10 they're doing this -- to Lagos. I think Nigerian investors
11 were chartering planes to do that.

12 There are some traditional herders that walk their
13 cattle from Mali and Niger into Ivory Coast and northern
14 Nigeria. A key to success to one of our projects in Niger
15 was the food -- the cattle in Niger was being purchased by
16 Nigerian consumers, neighboring Nigerian consumers.

17 So you have to look at the interdependence between
18 the buying and the producing and the consuming states. There
19 are a lot of problems that were identified. One was a lot of
20 trade barriers, and as was mentioned yesterday, in the
21 community of west African states where trade barriers
22 exist.

23

1 Maybe more money on roads -- I know it's against
2 our philosophy to talk about roads. But maybe we need more
3 farmer to market -- product to market road. We need more
4 water points, storage and processing.

5 One experience we had in west Africa consisting
6 of five states in the Upper Volta, Niger, Togo, Benin and
7 Ivory Coast where there is a lot of meat producing and meat
8 processing. They had water points and so forth. So some of
9 the lessons that are really there we are not learning from
10 them. And we keep talking about frustrations.

11 I think from strategy point of view, and this is
12 my suggestion, that maybe we should have some more visible --
13 returns that are visible. But they aren't visible to the
14 auditors. Because we have projects where we are building
15 trucks, where you are maybe getting more trains, the train
16 that goes from Abidjan to -- well, they do -- these are the
17 trains that ship a lot of cattle, and maybe we can add
18 a separate investment in them.

19 These are the things that are more visible to the
20 auditors, and we might get some good marks on that.

21 DR. BERWICK: I have a question. I'm kind of
22 curious as to the constitution of teams of auditors. I've

2/40

1 heard this morning that they basically were looking at the
2 management and the finances of these projects, and I'm wonder-
3 ing if a team like that can look at the technical bases, as
4 you put it, and make an evaluation as to whether that --
5 make an audit of that and the goals in the project. I was
6 wondering if I was reading that in the papers that I've been
7 handed.

8 DR. ERIKSSON: Let me make sure I understand your
9 question. You're wondering whether the audit teams really
10 kind of exclusively focused on the management aspects and
11 fiscal management, and so on, and didn't perhaps pay enough
12 attention to the technical side?

13 DR. BERWICK: Well, there are several things to
14 audit in these projects. One is the technical and one is
15 the management. I don't know about the constitution of these
16 teams, but I understand from this morning that they may be
17 eccentric to just one or two of those things.

18 DR. ERIKSSON: Allan.

19 DR. HOBEN: Briefly, I think the point that Larry
20 made earlier that the evaluation teams which are quite
21 solid and do have many different disciplines on it, and the
22 evaluations of these projects haven't been very positive

1 either. So moving on to Trid, I think your points are all
2 well-taken, but in a sense they're folded into what Stephen
3 said earlier that it's clear that general economic conditions
4 infrastructure, price policies, in addition to natural
5 events are going to affect the livestock sector a great deal.

6 But I think, in a sense, the issue here is whether
7 AID should go on and can go on wisely giving any kind of
8 focused support for livestock and range.

9 DR. ERIKSSON: In the absence of rectifying some
10 of those basic economic or market-related issues including
11 trade barriers between countries.

12 DR. HOBEN: And hopefully all those other things
13 are things AID and other donors are working on, but they
14 wouldn't be called range management or livestock or arid
15 lands projects, and I think that's the only reason we're not
16 putting that centrally in the recommendation -- not disagreement.

17 DR. ERIKSON: You know I could see this as being
18 a fairly basic issue with the Administrator, for example,
19 should be supporting even research institution building on
20 range management in Sahelian countries in the absence of
21 rectification of these market constraints and trade barriers
22 between the natural supplying countries and the natural

1 demanding countries.

2 DR. MUKHERJEE: If the coastal countries want to
3 be self-sufficient in meat, there is no reason they wouldn't
4 be, at a very high cost, at an impossible cost. One example,
5 Ivory Coast at one time thought it would be self-sufficient
6 in rice. And over a period of five or six years, it became
7 self-sufficient. And then suddenly things went down and
8 they started importing from Thailand.

9 But there are some areas, also in coastal countries,
10 where you could probably encourage good production. Coastal
11 countries do not produce livestock. One of the major reasons
12 is the tsetse fly and other parasites. So this is one
13 interpretation.

14 Another is multiuse and multi-utilization of
15 livestock. I can think of countries such as India there are
16 300 million, something like that, cattle, and they don't
17 eat meat. So obviously they're using cattle for other
18 purpose: as beast of burden, as animal traction, et cetera.
19 But those are other uses that should be -- could be for the
20 projects -- animal traction projects, getting credit to buy
21 livestock, using plow. These are in some countries.

22 DR. ERIKSSON: Well, it's about time. I have a

21/12

1 little after 9:45 now. I would like to take this opportunity
2 before we break up with the rest of the staff here -- before
3 we cross the hall and down one flight -- to extend our
4 thanks and gratitude to the panel of experts, and your
5 very hard and intensive work. We kept you quite busy for a
6 prolonged period of time yesterday, and I think more so than
7 a few other panels I can recall in the past.

8 And starting again at four o'clock, even though
9 that was your time, this morning, we appreciate your efforts
10 very much, particular Gerald Thomas and Thad Box, but really
11 the entire panel as well.

12 And we're looking forward very much to the next
13 session with the Administrator. Thank you all.

14 (Whereupon, at 9:50 a.m., Tuesday, September 10,
15 1985, the meeting was adjourned.)
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