

COW PROTECTION

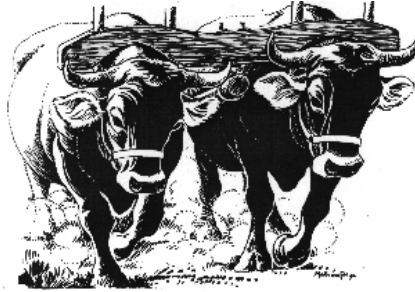


BOOK 1
ISKCON Ministry
of Cow Protection and Agriculture

COW PROTECTION BOOK 1

Published by:
ISKCON MINISTRY OF COW
PROTECTION AND AGRICULTURE

In Cooperation with:
THE INTERNATIONAL SOCIETY FOR
COW PROTECTION, INC.



ISCOWP
RD 1 BOX 322 A
MOUNDSVILLE WV. 26041, U.S.A.

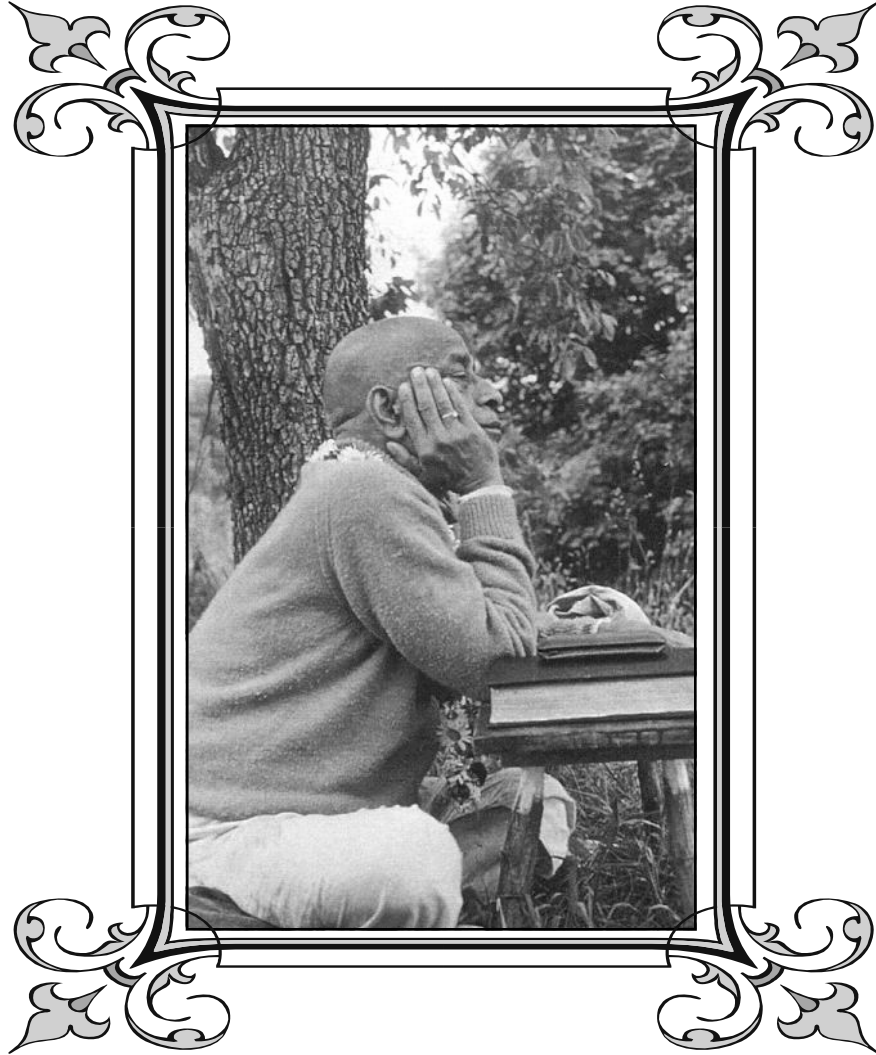
PH# 304-843-1658
E-mail: iscowp@earthlink.net
www.iscowp.org

Artwork by: Chāya devī, Roberto from Sector 108,
Mādhavā Priya dāsi, Sādhana Siddhi dās,
Photos: ISCOWP, Labangalatika dāsi, Cintāmaṇidāsi

This Book is Dedicated

to:

**His Divine Grace
A.C. Bhaktivedanta Swami Prabhupāda**



**Founder Āchārya of the International Society for
Kṛṣṇa Consciousness**

*Without protection of cows, brahminical culture cannot be maintained; and
without brahminical culture, the aim of life cannot be fulfilled.*

- Śrīmad-Bhāgavatam 8.24.5 Purport

TABLE OF CONTENTS

Dedication	3
Table of Contents	4-6
Introduction	7
<hr/>	
ŚRĪLA PRABHUPĀDA ON COW PROTECTION	8-49
PHILOSOPHICAL	9-26
Why Cow Protection?	9
Lord Kṛṣṇa Is a Cowherd Boy	12
The Importance of Protecting the Cow	15
Cow Slaughter	17
Why September 11? Animal Slaughter = War	21
Cow Protection and Economic Development	24
PHILOSOPHICAL AND PRACTICAL	27-49
Cow Care	28
Milk	31
Cow Dung/Urine	33
Ox Power	37
Land	42
Independent Farm Community Development	46
<hr/>	
THE “HOW TO” OF COW PROTECTION	50-152
The Minimum Cow Protection Standards ISKCON Law 507	51
Section 1: Care Standards	52
Section 2: Breeding Standards	59
Section 3: Management Standards	61
Glossary	64
Cow Report Form ISKCON Law 507	66
Cow Care	73-89
Milking The Cows	73

Mother Yaśodā's Or Pūtanā's Milk?	78
Breeding	80
Discussion Of Breeds	82
Homeopathic Cures For Cow Diseases	86
The Death Of A Cow: What To Do?	88
Ox Power	90-120
First Lesson	93
Second Lesson	95
Third Lesson	97
Fourth Lesson	98
The "Kamdhenu" Bullock Drawn Tractor	101
Some Resources On Yokes	103
How To Make A Yoke	104
Making The Irons	113
How To Make An Ox Bow	114
Planting Potatoes By Oxen In England	119
Dung/Urine	120-152
Rajasthan Goseva Sangh	120
Bio-Gas Plant	125
Cow Dung Good Nuclear Shield	130
Medical Uses Of Cow Dung Receive U.S. Patent	131
Dung Is Gold Mine	132-152
HOW TO ESTABLISH COW PROTECTION	
	153-183
Village Life	154
Memories Of My Boyhood In India	155
Cow Land Trust	158
Community Supported Agriculture	160
Defining CSA, CSA Resource List	160-163
Establishing A Viable Cow Protection Program Through CSA	165

The Hare Kṛṣṇa Farm In Mysore	179
Self Sufficient Farms	182
Housing	183
RESOURCES	
	186-204
CATALOGS/ SOURCEBOOKS	186
Seeds	187
JOURNALS AND BOOK SERVICES	188
BOOKS/ AGRICULTURE	189
Seeds	193
ANIMAL TRACTION/OX POWER	193
Books/Publications	194
Organizations	195
Videos	196
BOOKS/ COMMUNITY	196
Housing, Housing Publications	197/198
Skills	198
Tools	198
BOOKS/ COWS	199
Breeds/Breeding	199
Cow Care	199
Barns	200
Bookkeeping	201
Feeding	201
Fencing	201
Health Care	202
Hoof Care	203
Milking	203
Transporting	203
Water	204

ISCOWP Headquarters
ISCOWP Farm, New Vṛndāvan
February 6, 2003

Dear Reader,

Please accept our humble obeisances. All glories to Śrīla Prabhupāda!

This book will be helpful to you if you are feeling the importance of becoming involved in some way with cow protection, with a devotee farm project, or are embarking on starting your own farm project. By no means does it contain all you need to know. However, it does provide a general understanding of the major topics you will need to be familiar with to successfully participate in this wonderful aspect of Kṛṣṇa consciousness. A substantial resource section is offered that provides you with extensive knowledge in particular topics that you may have a keen interest in. Many of these books are on our own bookshelves and have proven to be very helpful in our own quest to learn more and more the intricacies of living with the cows and the land.

Please forgive any mistakes you may find in this publication. Actively living on a farm and caring for 25 cows and oxen and other critters, growing as much of our own food as possible and preserving it for the winter, heating with wood from our forests, supplying firewood for about 10 local families, and operating the ISCOWP office, doesn't leave a lot of time for academic proficiency. This is a small printing with the idea that after feedback and finer tuning we can print more extensively. So, if you find some mistakes or would like to see some additional topics added, please let us know. Also, we are interested in your comments.

Many of the articles that appear in this publication have previously appeared in some issue of the ISCOWP News and/or from e-mail discussions from the COM Cow conference that

we established in 1993. The ISCOWP News has been in print since 1990. The accumulation of knowledge in these issues and from the conference has now become obviously worth categorizing. This book is the first attempt in that project. The goal is to eventually produce other books that specialize in various aspects: i.e. training oxen, setting up a Vaiṣṇava farm, etc.

Since agriculture varies greatly geographically we always advise that you also consult with the local farming people in your area for practical information. Of course, in cases when they are not Vaiṣṇava, you can only absorb the information that will be in cooperation with your Vaiṣṇava philosophy. The "old timers" in your area possess so much knowledge that may become lost if you don't acquire it.

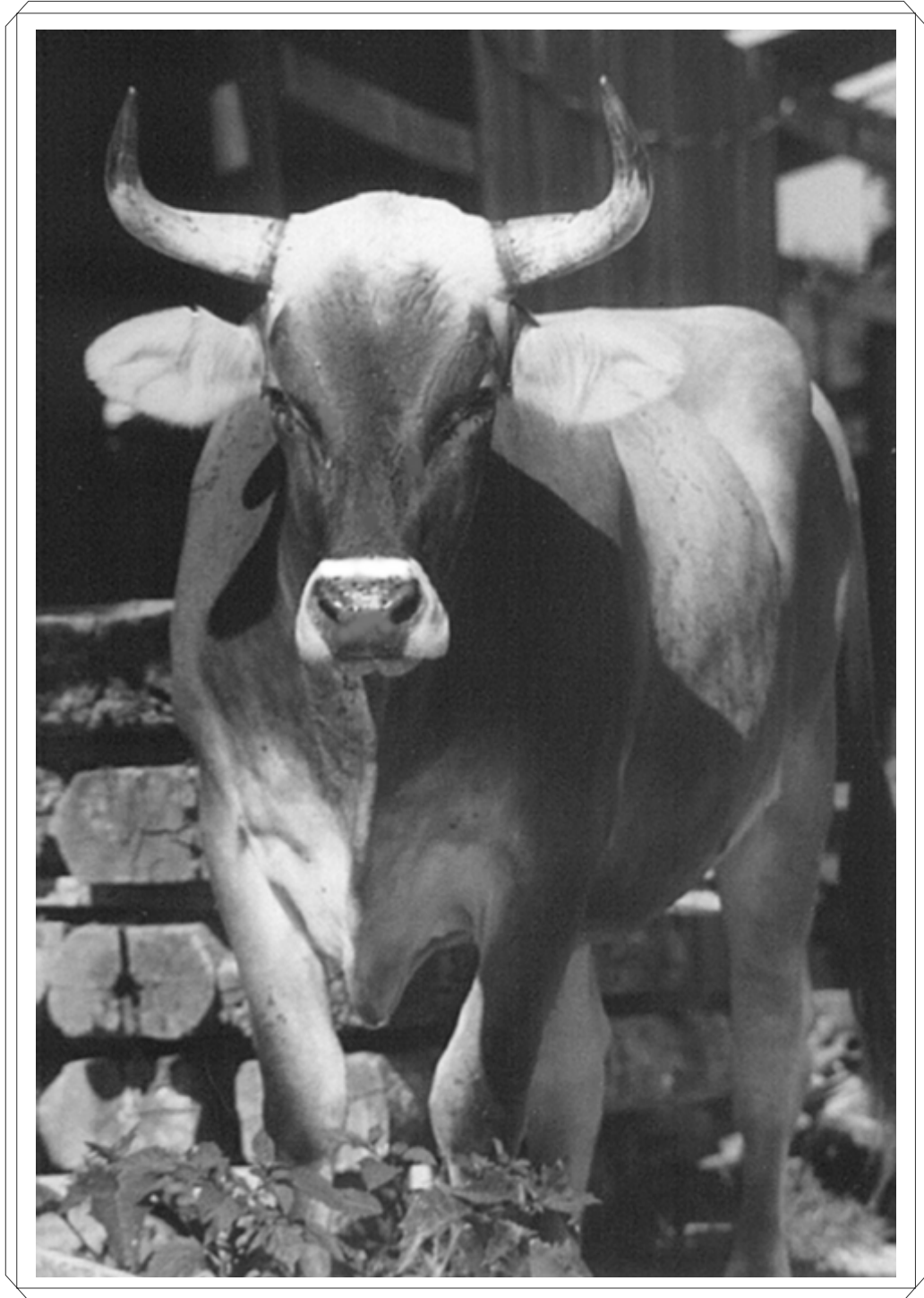
Besides the practical information, we have compiled quotes from Śrīla Prabhupāda that support and explain cow protection and the importance of Vaiṣṇava farm communities. These can be used by you either for your own inspiration or to present these topics to others. We humbly thank the Bhaktivedanta Archives for their wonderful VedaBase from which we acquired most of the quotes.

Our heartfelt appreciation and acknowledgement is offered to all the contributors whose articles and comments appear on these pages. We have tried to give their contact information whenever possible so that you may contact them for further discussion and help. Many of them have many years of experience that will be useful to you. A special thanks goes to our daughter Lakshmi devī who helped in so many ways to bring this book out of the ISCOWP office into your hands, and to Pandu dās (pandu.bms@pamho.net) and his wife Leslie Howard for final editing.

Your servants at the:

International Society for Cow Protection

ŚRĪLA PRABHUPĀDA ON COW PROTECTION



PHILOSOPHICAL

WHY COW PROTECTION?

Highlights: "Cow protection is the most important business of the human society ...human civilization will advance only on the basis of brahminical culture and cow protection....the cow is your mother.... he (bull) is your father....the protection of the lives of both the human beings and the animals is the first and foremost duty of a government....."

There are many other animals. Why particularly cow? Because cow protection is the most important business of the human society. In offering obeisances to Kṛṣṇa, it is said, namo brahmaṇya-devāya go-brāhmaṇa-hitāya ca: "I offer my respectful obeisances unto the Supreme Person, who is the protector of the brāhmaṇas and the cows." Go-brāhmaṇa-hitāya ca jagad-dhitāya. The first qualification is that He protects the brāhmaṇas and the cows. Next, He protects the whole world. Jagad-dhitāya kṛṣṇa. And He is Kṛṣṇa, govindāya, this Govinda. So the example is set by the Supreme Personality of Godhead that human civilization will advance only on the basis of brahminical culture and cow protection.

As soon as there is falldown from brahminical culture, and as soon as there is discrepancy in the protection of cows, there will be no more peace in the world. Therefore He specifically said, go-brāhmaṇa-hitāya ca. This Kṛṣṇa consciousness movement is for the protection of brahminical culture and cows.

-Śrīla Prabhupāda
Lecture, December 04, 1968, Los Angeles

TRANSLATION:

The brāhmaṇas, the cows and the defenseless creatures are My own body. Those whose faculty of judgment has been impaired by their own sin look upon these as distinct from Me. They are just like furious serpents, and they are angrily torn apart by the bills of the vulture like messengers of Yamarāja, the superintendent of sinful persons.

PURPORT:

The defenseless creatures, according to Brahma-saṁhitā, are the cows, brāhmaṇas, women, children and old men. Of these five, the brāhmaṇas and cows are especially mentioned in this verse because the Lord is always anxious about the benefit of the brāhmaṇas and the cows and is prayed to in this way. The Lord especially instructs, therefore, that no one should be envious of these five, especially the cows and brāhmaṇas. In some of the Bhāgavatam readings, the word duhitṛḥ is used instead of duhatīḥ. But in either case, the meaning is the same. Duhatīḥ means "cow," and duhitṛḥ can also be used to mean "cow" because the cow is supposed to be the daughter of the sun-god.

Just as children are taken care of by the parents, women as a class should be taken care of by the father, husband or grown-up son. Those who are helpless must be taken care of by their respective guardians, otherwise the guardians will be subjected to the punishment of Yamarāja, who is appointed by the Lord to supervise the activities of sinful living creatures. The assistants, or messengers, of Yamarāja are likened here to vultures, and those who do not execute their respective duties in protecting their wards are compared to serpents. Vultures deal very seriously with serpents, and similarly the messengers will deal very seriously with neglectful guardians.

-Śrīmad-Bhāgavatam 3.16.10

Cow protection means feeding the brahminical culture, which leads towards God consciousness, and thus perfection of human civilization is achieved. -Śrīmad-Bhāgavatam 1.19.3 Purport

According to Indian way of thought, every one is advised to do good to others namely not only to the human society but also to living beings other

than human beings. The Indians are not cow worshippers as others wrongly interpret it, but the Indians are grateful to the species of cow for supplying milk to the human babies and the sentiment is so fine that simply for supplying milk the cow is accepted as one of the seven mothers. That is called Indian cultural mission.

-Letter to: Harbanslal August 2, 1958 Bombay

According to Vedic civilization, there are seven mothers.

ādau-mātā guroḥ patnī
brahmaṇī rāja-patnikā
dhenur dhatri tathā pṛthvī
sapta eta mataraḥ smṛtaḥ

Ādau-mātā, real mother, and guru-patnī, the wife of guru or teacher, she is also mother 'cause teacher is father. Ādau-mātā guroḥ patnī brahmaṇī, the wife of a brāhmaṇa. She is mother. Ādau-mātā guroḥ patnī brāhm..., rāja-patnikā, the queen, the wife of the king. She is mother. And then cow is mother because you are drinking her milk. Ādau-mātā guroḥ patnī brahmaṇī rāja-patnikā, dhenur dhatri, nurse. Nurse is also mother because you suck the breast of the nurse. Therefore according to Vedic civilization, there are seven mothers.

-Garden Conversation June 24, 1975, Los Angeles

Now, the sunshine, we are getting advantage of sunshine. So we are indebted to the sun-god. Similarly, we are indebted to the moon-god. We are receiving so much advantages. Varuṇa. Devā. So we are indebted to so many demigods. Similarly, we are indebted to the ṛṣis. Just like Vyāsadeva. He has given us this Vedic literature. We are taking advantage of it. So we must feel indebted. Devā ṛṣi. First of all, we are indebted to the devatās, and then to the ṛṣis, then the bhūtas, ordinary living entities. Just like we are taking milk from the cow.

We are indebted. "No, we are killing them." They are committing simply sinful life and they want to be happy and peaceful. Just see. We are indebted. I

am obliged to you for your service. So instead of feeling obligation, if I cut your throat, how gentleman I am, just see, imagine.

-Lectures Bhagavad-gītā 1.37-39 London

The Lord said, "You drink cows' milk; therefore the cow is your mother. And the bull produces grains for your maintenance; therefore he is your father."
-Ādi-līlā 17.153 Translation

...The Supreme Personality of Godhead, in His instructions of Bhagavad-gītā, advises go-rakṣya, which means cow protection. The cow should be protected, milk should be drawn from the cows, and this milk should be prepared in various ways. One should take ample milk, and thus one can prolong one's life, develop his brain, execute devotional service, and ultimately attain the favor of the Supreme Personality of Godhead.

-Śrīmad-Bhāgavatam 8.6.12 Purport

Like children, the unintelligent animals are also sons of the Supreme Personality of Godhead, and therefore a Kṛṣṇa conscious person, even though a householder, should not discriminate between children and poor animals. Unfortunately, modern society has devised many means for killing animals in different forms of life. For example, in the agricultural fields there may be many mice, flies and other creatures that disturb production, and sometimes they are killed by pesticides. In this verse, however, such killing is forbidden. Every living entity should be nourished by the food given by the Supreme Personality of Godhead. Human society should not consider itself the only enjoyer of all the properties of God; rather, men should understand that all the other animals also have a claim to God's property.

-Śrīmad-Bhāgavatam 7.14.9 Purport

The protection of the lives of both the human beings and the animals is the first and foremost duty of a government. A government must not discriminate in such principles. It is simply

horrible for a pure-hearted soul to see organized animal-killing by the state in this age of Kāli. Mahārāja Parīkṣit was lamenting for the tears in the eyes of the bull, and he was astonished to see such an unprecedented thing in his good kingdom. Men and animals were equally protected as far as life was concerned. That is the way in God's kingdom.

-*Śrīmad-Bhāgavatam 1.17.8 Purport*

It is said here that the cows used to moisten the pasturing land with milk because their milk bags were fatty and the animals were joyful. Do they not require, therefore, proper protection for a joyful life by being fed with a sufficient quantity of grass in the field? Why should men kill cows for their selfish purposes? Why should man not be satisfied with grains, fruits and milk, which, combined together, can produce hundreds and thousands of palatable dishes. Why are there slaughterhouses all over the world to kill innocent animals?

Mahārāja Parīkṣit, grandson of Mahārāja Yudhiṣṭhira, while touring his vast kingdom, saw a black man attempting to kill a cow. The King at once arrested the butcher and chastised him sufficiently. Should not a king or executive head protect the lives of the poor animals who are unable to defend themselves? Is this humanity? Are not the animals of a country citizens also? Then why are they allowed to be butchered in organized slaughterhouses? Are these the signs of equality, fraternity and nonviolence?

-*Śrīmad-Bhāgavatam 1.10.4*

The conclusion is, therefore, that the sufferings of the representative of religion and the representative of the earth, as present before Mahārāja Parīkṣit, were planned to prove that Mahārāja Parīkṣit was the ideal executive head because he knew well how to give protection to the cows (the earth) and the brāhmaṇas (religious principles), the two pillars of spiritual advancement.

-*Śrīmad-Bhāgavatam 1.17.20 Purport*

Prabhupāda: ...earning and cow protection. You must do it. The other day I was explaining that not from economic point of view, even the cows do not supply milk, still, they should be protected.

Bali-mardana: Hm. Just to protect them.

Prabhupāda: Because that stool and urine is also useful. Cow is so important. They'll eat and they'll pass stool and urine. That is also important. If they supply milk, it is well, very good. Otherwise the stool and urine is also important. From that point of view we should give protection.

-*Evening Darśana February 25, 1977, Māyāpura*

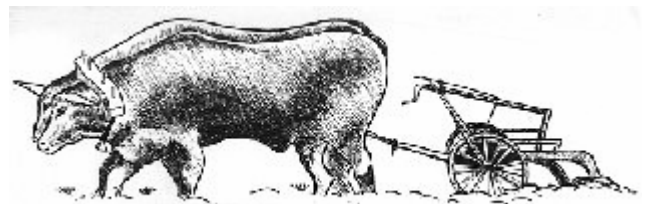
The Supreme Personality of Godhead is worshiped with the prayer *namo brahmaṇya-devāya go-brāhmaṇa-hitāya ca*. Thus it is clear that the Supreme personality of Godhead respects and protects the brāhmaṇas and brahminical culture, as well as the cows; in other words, wherever there are brāhmaṇas and brahminical culture, there are cows and cow protection.

-*Śrīmad-Bhāgavatam 4.21.44 Purport*

So unless one becomes responsible householder, how he'll execute his responsibility? If he thinks, "Oh, what is the use of keeping a cow when the milk is available in the market? Oh, sex life is so cheap. Why shall I take the responsibility of marrying?" This is going on.

-*Śrī Caitanya-caritāmṛta, February 15, 1967*

Ādi-līlā 7.107-109 San Francisco



LORD KṚṢṆA IS A COWHERD BOY

Highlights: "Agriculture is the noblest profession.....By His personal example Lord Kṛṣṇa wanted to teach us the value of protecting cows.....Kṛṣṇa was farmer, His father.....Kṛṣṇa identified Himself with the vaiśya community because Nanda Mahārāja was protecting many cows and Kṛṣṇa was taking care of them."

With good rains, the farmer's business in agriculture flourishes. Agriculture is the noblest profession. It makes society happy, wealthy, healthy, honest, and spiritually advanced for a better life after death. The vaiśya community, or the mercantile class of men, take to this profession. In Bhagavad-gītā the vaiśyas are described as the natural agriculturalists, the protectors of cows, and the general traders. When Lord Śrī Kṛṣṇa incarnated Himself at Vṛndāvana, He took pleasure in becoming a beloved son of such a vaiśya family.

Nanda Mahārāja was a big protector of cows, and Lord Śrī Kṛṣṇa, as the most beloved son of Nanda Mahārāja, used to tend His father's animals in the neighboring forest. By His personal example Lord Kṛṣṇa wanted to teach us the value of protecting cows. Nanda Mahārāja is said to have possessed nine hundred thousand cows, and at the time of Lord Śrī Kṛṣṇa (about five thousand years ago) the tract of land known as Vṛndāvana was flooded with milk and butter. Therefore God's gifted professions for mankind are agriculture and cow protection.

-*Light of the Bhāgavata, Preface*

Allen Ginsberg: So we're also going through a coovy(?) āśrama for poets. A little farm for poets. Prabhupāda: Yes. Farming, agriculture, that is nice. There is a proverb: agriculture is the noblest profession. Is it not said? Agriculture is noblest, and Kṛṣṇa was farmer, His father.

-*Room Conversation with Allen Ginsberg, May 11, 1969, Columbus, Ohio*

So Kṛṣṇa is not a created, aristocratic lord. That we should know. Anādir ādir govindaḥ. Govinda means... Go means three things. What is that?

Go means the senses, and go means cow, and go means land. There are three meanings of go. So He gives pleasure to these three things.

Wherever He is present, it becomes blissful, ānanda. Ānandamayo 'bhyāsāt. The Vedānta-sūtra says, ānandamaya, always full of... Kṛṣṇa, the reservoir of pleasure. So whenever He is present, in whichever land, in whichever country, in whichever planet He is present, it becomes full of bliss, ānanda. Govinda. And He is playing just like cowherd boy, sixteen-year-boy and playing with cows. His father has got many cows, and He goes to the cows, pleasure trip.

-*Lectures, Śrī Caitanya-caritāmṛta, Madhya-līlā 20.152-154 December 5, 1966 New York*

As soon as Kṛṣṇa and Balarāma were a little grown up, They were meant for taking care of the calves. Although born of a very well-to-do family, They still had to take care of the calves. This was the system of education. Those who were not born in brāhmaṇa families were not meant for academic education. The brāhmaṇas were trained in a literary, academic education, the kṣatriyas were trained to take care of the state, and the vaiśyas learned how to cultivate the land and take care of the cows and calves. There was no need to waste time going to school to be falsely educated and later increase the numbers of the unemployed. Kṛṣṇa and Balarāma taught us by Their personal behavior. Kṛṣṇa took care of the cows and played His flute, and Balarāma took care of agricultural activities with a plow in His hand.

-*Śrīmad-Bhāgavatam, 10.11.37, Purport*

Kṛṣṇa Himself did it. He was king's son, Nanda Mahārāja. In the childhood, He was taking care of the calves, and when He was grown up, little, He was taking care of the cows. Kṛṣṇa personally showed it. His father could have avoided, "No, no, You don't go. The servants will go." No. "You

also go." Kṛṣṇa-Balarāma, both. Balarāma has got the plow, tilling ground, and Kṛṣṇa has got the flute to enchant the cows. Kṛṣṇa-Balarāma. They were not sitting idly, although Nanda Mahārāja could keep Them without any work. No. They worked. From the beginning of childhood. They would come in the evening and mother would take care of bathing Them, changing dress, and then giving nice food, and after taking food They would go to rest. Whole day They worked. Kṛṣṇa never taught that you sit idly.

-Room Conversation,
June 24, 1976, New Vrindaban

The Lord says in Bhagavad-gītā (3.21), yad yad ācarati śreṣṭhas tat tad evetaro janaḥ: "If the leading personalities behave in a certain manner, others follow them automatically." Who can be more of a leading personality than the Supreme personality of Godhead, and whose behavior could be more exemplary? It is not that He needed to do all these things to acquire material gain, but all of these acts were performed just to teach us how to behave in this material world.

-Srimad Bhagavatam, 4.21.38 Purport

Lord Śrī Kṛṣṇa, by His personal example, taught us the importance of cow protection, which is meant not only for the Indian climate but for all human beings all over the universe.

-Light of Bhāgavata, 27

Arjuna has addressed Lord Kṛṣṇa as Govinda because Kṛṣṇa is the object of all pleasures for cows and the senses.

-Bhagavad-gītā, 1.32-35, Purport

Lord Śrī Kṛṣṇa descended Himself at Vrajabhūmi with all His transcendental entourage and paraphernalia. Śrī Caitanya Mahāprabhu therefore confirmed that no one is as fortunate as the residents of Vrajabhūmi, and specifically the cowherd girls, who dedicated their everything for the satisfaction of the Lord. His pastimes with Nanda and Yaśodā and His

pastimes with the cowherd men and especially with the cowherd boys and the cows have caused Him to be known as Govinda. Lord Kṛṣṇa as Govinda is more inclined to the brāhmaṇas and the cows, indicating thereby that human prosperity depends more on these two items, namely brahminical culture and cow protection. Lord Kṛṣṇa is never satisfied where these are lacking. -Śrīmad-Bhāgavatam 1.8.21 Purport

That is Kṛṣṇa's business. Therefore He is Govinda. The cows, oh, as soon as they see Kṛṣṇa, they become... They lick up His face and body, and every cow has got a different name. As soon as He will call, the cow will come immediately and dropping milk. And those cows are also spiritual. Surabhī. It is described in the Brahma-saṁhitā. Surabhīr abhipālayantam. Surabhī. Surabhī cow means nonexhaustive. You can milk as much milk you want and as many times. In the material world the cow is limited. There is time that you can milk, morning and evening, and so much quantity, not more than that. But surabhīr means you can milk those cows anytime you like and you can draw milk as many as you like, as much as you like. This is called surabhī. Surabhīr... In the description of Brahma-saṁhitā: cintāmaṇi-prakara-sadmasu kalpa-vṛkṣa-lakṣāvṛteṣu surabhīr abhipālayantam. Surabhīr abhipālayantam. So therefore He is Govinda. He gives... He is pleasure for everyone.

-Lectures, Śrī Caitanya-caritāmṛta, Madhya-līlā
20.152-154 1966, New York

Govinda dāsī: Could you describe Kṛṣṇa's pastimes as cowboy whenever He goes out in the morning with the cowherds boys?

Prabhupāda: Yes, you can... Because... Have you seen how the... You have no experience here in your country. Have you got any experience? But in India we have got experience how in the morning the cowboy takes some food from the mother and with the cows he goes to the field. The cows are let loose on the grazing ground. They are enjoying, and this cowboy is sometimes

singing. The flute, Kṛṣṇa's flute is because He is cowboy. The cowboys still play in that flute. In India you'll find. Because the cows are let... They are doing their own work, and what this boy will do? They are playing. There are many cowherds boys, they are playing. Sometimes playing on flutes, sometimes sporting, sometimes eating. So Kṛṣṇa was exactly doing like that. All the cowboy friend went with Him. Kṛṣṇa was, of course, a very rich man's son. His father was very rich. So He used to take with Him very nice foodstuff, lugdoo, kacaurī. And other, His poor friends, they were taking capātīs, dry capātīs. (laughs) So they were enjoying, dividing, "Your food, my food, his food." And sometimes there was some trouble in the forest because Kāmsa was after Kṛṣṇa to kill Him. He was sending his assistants. So some asura would come, Bakāsura, Aghāsura, and Kṛṣṇa would kill. And the boys would return and narrate the story to their mother. "Oh, my dear mother! Such and such thing happened and Kṛṣṇa killed it! Very..." (laughter) The mother will, "Oh, yes, our Kṛṣṇa is very wonderful!" (laughter) So Kṛṣṇa was their enjoyment. That's all. The mother is speaking of Kṛṣṇa, the boy is speaking of Kṛṣṇa. So therefore they did not know anything but Kṛṣṇa. Kṛṣṇa. Whenever there is some trouble, "Oh Kṛṣṇa." When there is fire, "Oh, Kṛṣṇa." That is the beauty of Vṛndāvana. Their mind is absorbed in Kṛṣṇa. Not through philosophy. Not through understanding, but natural love. "Kṛṣṇa is our village boy, our relative, our friend, our lover, our master." Some way or other, Kṛṣṇa. That is the beauty. Therefore Śukadeva Gosvāmī is describing the playing of the boys.

-Room Conversation, April 11, 1969, New York

Kṛṣṇa identified Himself with the vaiśya community because Nanda Mahārāja was protecting many cows and Kṛṣṇa was taking care of them. He enumerated four kinds of business

engagements for the vaiśya community, namely agriculture, trade, protection of cows and banking. Although the vaiśyas can take to any of these occupations, the men of Vṛndāvana were engaged primarily in the protection of cows.

-Kṛṣṇa Book 24: Worshiping Govardhana Hill

There are five primary relationships with Kṛṣṇa: as a passive devotee, as a servant, as a friend, as a parent, and as a lover. The cows in Kṛṣṇa's abode are also liberated souls. They are called surabhi cows. There are many popular pictures showing how Kṛṣṇa loves the cows, how He embraces and kisses them. That passive relationship with Kṛṣṇa is called śānta. Their perfect happiness is achieved when Kṛṣṇa comes and simply touches them. *-Kṛṣṇa Book 27 Prayers by Indra, the King of Heaven*

The Supreme Personality of Godhead has instructed in Bhagavad-gītā (18.44), kṛṣi-go-rakṣya-vāñijyam vaiśya-karma-svabhāvajam: "Farming, cow protection and trade are the qualities of work for the vaiśyas." Nanda Mahārāja belonged to the vaiśya community, the agriculturalist community. How to protect the cows and how rich this community was are explained in these verses. We can hardly imagine that cows, bulls and calves could be cared for so nicely and decorated so well with cloths and valuable golden ornaments. How happy they were. As described elsewhere in the Bhāgavatam, during Mahārāja Yudhiṣṭhira's time the cows were so happy that they used to muddy the pasturing ground with milk. This is Indian civilization. Yet in the same place, India, Bhārata-varṣa, how much people are suffering by giving up the Vedic way of life and not understanding the teachings of Bhagavad-gītā.

-Śrīmad-Bhāgavatam 10.5.3 Purport



THE IMPORTANCE OF PROTECTING THE COW

Highlights: *"Without protection of cows, brahminical culture cannot be maintained; and without brahminical culture, the aim of life cannot be fulfilled....In fact, comfort for the brāhmaṇas is secondary, and comfort for the cows is His first concern...without protection of the brāhmaṇas and the cows, there can be no human civilization and no question of happy, peaceful life."*

Without protection of cows, brahminical culture cannot be maintained; and without brahminical culture, the aim of life cannot be fulfilled.

-*Śrīmad-Bhāgavatam 8.24.5 Purport*

Lord Kṛṣṇa, the Supreme personality of Godhead, is the prime protector of brahminical culture and the cow. Without knowing and respecting these, one cannot realize the science of God, and without this knowledge, any welfare activities or humanitarian propaganda cannot be successful. -*Śrīmad-Bhāgavatam 4.21.38 Purport*

The Lord is the protector of cows and the brahminical culture. A society devoid of cow protection and brahminical culture is not under the direct protection of the Lord, just as the prisoners in the jails are not under the protection of the king but under the protection of a severe agent of the king. Without cow protection and cultivation of the qualities in human society, at least for a section of the members of society, no human civilization can prosper at any length.

-*Śrīmad-Bhāgavatam 1.14.34 Purport*

.....There is also a prayer in the Vedic literature that states:

namo brahmaṇya-devāya
go-brāhmaṇa-hitāya ca
jagad-dhitāya kṛṣṇāya
govindāya namo namaḥ

My Lord, You are the well-wisher of the cows and the brāhmaṇas, and You are the well-wisher of the entire human society and world." (Viṣṇu Purāṇa 1.19.65) The purport is that special mention is given in that prayer for the protection of the cows and the brāhmaṇas. Brāhmaṇas are the symbol of spiritual education, and cows are the symbol of the most valuable food; these two living creatures, the brāhmaṇas and the cows, must be given all protection—that is real advancement of civilization. In modern human society, spiritual knowledge is neglected, and cow killing is encouraged. It is to be understood, then, that human society is advancing in the wrong direction and is clearing the path to its own condemnation.

-*Bhagavad-gītā 14.17 Purport*

If one is trained to honor and worship the cows and brāhmaṇas, he is actually civilized. The worship of the Supreme Lord is recommended, and the Lord is very fond of the cows and brāhmaṇas (namo brahmaṇya-devāya go-brāhmaṇa-hitāya ca). In other words, a civilization in which there is no respect for the cows and brāhmaṇas is condemned. One cannot become spiritually advanced without acquiring the brahminical qualifications and giving protection to cows. Cow protection insures sufficient food prepared with milk, which is needed for an advanced civilization.

-*Śrīmad-Bhāgavatam 6.18.52 Purport*

For the cowherd men and the cows, Kṛṣṇa is the supreme friend. Therefore He is worshiped by the prayer namo brahmaṇya-devāya go-brāhmaṇa-hitāya ca. His pastimes in Gokula, His dhāma, are always favorable to the brāhmaṇas and the cows. His first business is to give all comfort to the cows and the brāhmaṇas. In fact, comfort for the brāhmaṇas is secondary, and comfort for the cows is His first concern.

-*Śrīmad-Bhāgavatam 10.8.16 Purport*

Lord Kṛṣṇa as Govinda is more inclined to the brāhmaṇas and the cows, indicating thereby that human prosperity depends more on these two items, namely brahminical culture and cow protection. Lord Kṛṣṇa is never satisfied where these are lacking.

-Śrīmad-Bhāgavatam 1.8.21 Purport

From the instructions of Lord Brahmā it is understood that everyone should very faithfully worship the brāhmaṇas, the Supreme Personality of Godhead and the cows. The Supreme Personality of Godhead is go-brāhmaṇa-hitāya ca: He is always very kind to cows and brāhmaṇas. Therefore one who worships Govinda must satisfy Him by worshipping the brāhmaṇas and cows. If a government worships the brāhmaṇas, the cows and Kṛṣṇa, Govinda, it is never defeated anywhere; otherwise it must always be defeated and condemned everywhere. At the present moment, all over the world, governments have no respect for brāhmaṇas, cows and Govinda, and consequently there are chaotic conditions all over the world.

-Śrīmad-Bhāgavatam 1.14.34

O Lord Brahmā, your position within this universe is certainly most auspicious for everyone, especially the cows and brāhmaṇas. Brahminical culture and the protection of cows can be increasingly glorified, and thus all kinds of material happiness, opulence and good fortune will automatically increase. But unfortunately, if Hiraṇyakaśipu occupies your seat, everything will be lost.

-Śrīmad-Bhāgavatam 7.3.13 Translation

In this verse the words dvija-gavām pārameṣṭhyam indicate the most exalted position of the brāhmaṇas, brahminical culture and the cows. In Vedic culture, the welfare of the cows and the welfare of the brāhmaṇas are essential. Without a proper arrangement for developing brahminical culture and protecting cows, all the affairs of administration will go to hell.

-Śrīmad-Bhāgavatam 7.3.13 Purport

The brāhmaṇas, the cows, Vedic knowledge, austerity, truthfulness, control of the mind and senses, faith, mercy, tolerance and sacrifice are the different parts of the body of Lord Viṣṇu, and they are the paraphernalia for a godly civilization.

-Śrīmad-Bhāgavatam 10.4.41 Translation

When we offer our obeisances to the Personality of Godhead, we say:

namo brahmaṇya-devāya
go-brāhmaṇa-hitāya ca
jagad-dhitāya kṛṣṇāya
govindāya namo namaḥ

When Kṛṣṇa comes to establish real perfection in the social order, He personally gives protection to the cows and the brāhmaṇas (go-brāhmaṇa-hitāya ca). This is His first interest because without protection of the brāhmaṇas and the cows, there can be no human civilization and no question of happy, peaceful life.

-Śrīmad-Bhāgavatam 10.4.41 Purport

Cow urine and cow dung are uncontaminated, and since even the urine and dung of a cow are important, we can just imagine how important this animal is for human civilization.

-Śrīmad-Bhāgavatam 8.8.11 Purport

Where wealth and strength are not engaged in the advancement of brahminical culture, God consciousness and cow protection, the state and home are surely doomed by Providence. If we want peace and prosperity in the world, we should take lessons from this verse; every state and every home must endeavor to advance the cause of brahminical culture for self-purification, God consciousness for self-realization and cow protection for getting sufficient milk and the best food to continue a perfect civilization.

-Śrīmad-Bhāgavatam 1.19.3



COW SLAUGHTER

Highlights: *The animal killers do not know that in the future the animal will have a body suitable to kill them....To kill cows means to end human civilization.....Cow-killers are condemned to rot in hellish life for as many thousands of years as there are hairs on the body of the cow.....He who gives permission, he who kills the animal, he who sells the slaughtered animal, he who cooks the animal, he who administers distribution of the foodstuff, and at last he who eats such cooked animal food are all murderers, and all of them are liable to be punished by the laws of nature.*

The killing of cows by human society is one of the grossest suicidal policies, and those who are anxious to cultivate the human spirit must turn their attention first toward the question of cow protection. -*Śrīmad-Bhāgavatam 10.5.7 Purport*

Slaughtering poor animals is also due to the mode of ignorance. The animal killers do not know that in the future the animal will have a body suitable to kill them. That is the law of nature. In human society, if one kills a man he has to be hanged. That is the law of the state. Because of ignorance, people do not perceive that there is a complete state controlled by the Supreme Lord.

Every living creature is a son of the Supreme Lord, and He does not tolerate even an ant's being killed. One has to pay for it. So, indulgence in animal killing for the taste of the tongue is the grossest kind of ignorance. A human being has no need to kill animals, because God has supplied so many nice things. If one indulges in meat-eating anyway, it is to be understood that he is acting in ignorance and is making his future very dark.

Of all kinds of animal killing, the killing of cows is most vicious because the cow gives us all kinds of pleasure by supplying milk. Cow slaughter is

an act of the grossest type of ignorance. In the Vedic literature (Ṛg Veda 9.4.64) the words gobhiḥ prīṇita-matsaram indicate that one who, being fully satisfied by milk, is desirous of killing the cow is in the grossest ignorance.

-*Bhagavad-gītā 14.16 Purport*

..... But cow is very important animal. You get from its milk so many nutritious food. So apart from religious sentiment, from economic point of view, cow-killing is not good. And from moral point of view it is not good because you drink cow's milk, so cow is your mother.

-*Garden Conversation June 24, 1975, Los Angeles*

Mādhavānanda: Then the responsibility for some is to Kṛṣṇa; the responsibility of some is to the demigods?

Prabhupāda: Yes. Demigods, you have got responsibility. Devā, ṛṣi, bhūta, living-entities. Just like you are taking milk from the cows. You have the responsibility to protect it, but you are killing. So you must suffer.

-*Morning Walk August 12, 1975, Paris*

The birth of Mahārāja Parikṣit is wonderful because in the womb of his mother he was protected by the Personality of Godhead Śrī Kṛṣṇa. His activities are also wonderful because he chastised Kali, who was attempting to kill a cow. To kill cows means to end human civilization.

-*Śrīmad-Bhāgavatam 1.4.9 Purport*

go-aṅge yata loma, tata sahasra vatsara
go-vadhī raurava-madhye pace nirantara

Cow-killers are condemned to rot in hellish life for as many thousands of years as there are hairs on the body of the cow.

-*Ādi-līlā 17.166 Translation*

What is the purpose of eating? To live. If you can live very peacefully, very nicely, with good health, by eating so many varieties of foodstuff

given by Kṛṣṇa, why should I kill an animal? This is humanity. Why should I imitate an animal? Then what is the difference between animal and human being? If you have no discretion, if you have no consciousness. Besides that, scientifically, your teeth is meant for eating vegetables. The tiger has teeth for eating meat. Nature has made it like that. It has to kill another... Therefore he has got nails, he has got teeth, he has got strength. But you have no such strength. You cannot kill a cow like that, pouncing like tiger. You have to make slaughterhouse and sit down at your home. Somebody may slaughter, and you can eat very nicely. What is this? -Lectures Bhagavad-gītā

3.11-19 December 27, Los Angeles

To such bewildered persons of atheistic propensity, Lord Buddha is the emblem of theism. He therefore first of all wanted to check the habit of animal-killing. The animal-killers are dangerous elements on the path going back to Godhead.

Mahārāja Parīkṣit said that only the animal-killer cannot relish the transcendental message of the Supreme Lord.

Therefore if people are to be educated to the path of Godhead, they must be taught first and foremost to stop the process of animal-killing as above mentioned.

It is nonsensical to say that animal-killing has nothing to do with spiritual realization.

There is no justice when there is animal-killing. Lord Buddha wanted to stop it completely, and therefore his cult of ahimsā was propagated not only in India but also outside the country.

-Śrīmad-Bhāgavatam 1.3.24 Purport

TRANSLATION

A cruel and wretched person who maintains his existence at the cost of others' lives deserves to be killed for his own well-being, otherwise he will go down by his own actions.

PURPORT

According to Manu, the great author of civic codes and religious principles, even the killer of an animal is to be considered a murderer because animal food is never meant for the civilized man, whose prime duty is to prepare himself for going back to Godhead.

He says that in the act of killing an animal, there is a regular conspiracy by the party of sinners, and all of them are liable to be punished as murderers exactly like a party of conspirators who kill a human being combinedly. He who gives permission, he who kills the animal, he who sells the slaughtered animal, he who cooks the animal, he who administers distribution of the foodstuff, and at last he who eats such cooked animal food are all murderers, and all of them are liable to be punished by the laws of nature.

-Śrīmad-Bhāgavatam 1.7.37 Purport

When cows were purchased in the beginning I have seen them crying because the calf was taken for killing. They can understand. Not that they are animal and cannot understand. The neighboring farmers come and they are astonished at the nice preparations made from their milk. I see in the small cottages they are living very, very happily. The cows are grazing, and the male members are doing the work.

-Letter to: Kīrtanānanda Māyāpur October 05, 1974

TRANSLATION;

Sūta Gosvāmī said: After reaching that place, Mahārāja Parīkṣit observed that a lower-caste śūdra, dressed like a king, was beating a cow and a bull with a club, as if they had no owner.

PURPORT:

The principal sign of the age of Kali is that lower-caste śūdras, i.e., men without brahminical culture and spiritual initiation, will be dressed like administrators or kings, and the principal business of such non-kṣatriya rulers will be to kill the innocent animals, especially the cows and the

bulls, who shall be unprotected by their masters, the bona fide vaiśyas, the mercantile community. In the Bhagavad-gītā (18.44), it is said that the vaiśyas are meant to deal in agriculture, cow protection and trade.

In the age of Kali, the degraded vaiśyas, the mercantile men, are engaged in supplying cows to slaughterhouses. The kṣatriyas are meant to protect the citizens of the state, whereas the vaiśyas are meant to protect the cows and bulls and utilize them to produce grains and milk. The

whom we kill will be given an opportunity to kill us. Although in actuality no living entity is killed, the pains of being pierced by the horns of animals will be experienced after death. Not knowing this, rascals unhesitatingly go on killing poor animals. So-called human civilization has opened many slaughterhouses for animals in the name of religion or food. Those who are a little religious kill animals in temples, mosques or synagogues, and those who are more fallen maintain various slaughterhouses. Just as in civilized human society the law is a life for a life,



Jaya and Nanda are a team of trained protected oxen who live at ISCOWP's farm.

cow is meant to deliver milk, and the bull is meant to produce grains. But in the age of Kali, the śūdra class of men are in the posts of administrators, and the cows and bulls, or the mothers and the fathers, unprotected by the vaiśyas, are subjected to the slaughterhouses organized by the śūdra administrators.

-Śrīmad-Bhāgavatam 1.17.1

Those who are very enthusiastic about killing animals in the name of religion or for food must await similar punishment after death. The word māṁsa (“meat”) indicates that those animals

no living entity can encroach upon another living entity as far as the Supreme Lord is concerned. Everyone should be given freedom to live at the cost of the supreme father, and animal-killing—either for religion or for food—is always condemned by the Supreme Personality of Godhead.

-Śrīmad-Bhāgavatam 4.28.26 Purport

When three fourths of the population of the whole world become irreligious, the situation is converted into hell for the animals.

-Śrīmad-Bhāgavatam 1.16.20 Purport

Dr. Patel: The result will be the same as Gandhi's (indistinct). This slaughterhouse, so abominable and so horrible. When I first came to Bombay from my village and I had to pass through that railway, that nasty butcher house. It was so horrible smelling and those vultures sitting on the... I became spite of myself. When I came in Bombay. I had to join the grammatical college here.

Prabhupāda: You were... Two thousand years ago, Christ, he was born in Jewish family, he was horrified by seeing animal sacrifices in the synagogue. Therefore his first commandment is, "Thou shall not kill." He was so horrified. Why he has given this commandment? He was so much horrified. What is this? Therefore he gave up the Jewish religion. He started his own. This is the history. And he first commanded, "Thou shall not kill."

-Room Conversation December 31, 1976, Bombay

Kaṁsa has here been described as asabhya, meaning "uncivilized" or "most heinous," because he killed the many children of his sister. When he heard the prophecy that he would be killed by her eighth son, this uncivilized man, Kaṁsa, was immediately ready to kill his innocent sister on the occasion of her marriage. An uncivilized man can do anything for the satisfaction of his senses. He can kill children, he can kill cows, he can kill brāhmaṇas, he can kill old men; he has no mercy for anyone. According to the Vedic civilization, cows, women, children, old men and brāhmaṇas should be excused if they are at fault. But asuras, uncivilized men, do not care about that. At the present moment, the killing of cows and the killing of children is going on unrestrictedly, and therefore this civilization is not at all human, and those who are conducting this condemned civilization are uncivilized.

-Śrīmad-Bhāgavatam 10.3.22 Purport

Asuras, therefore, are always interested in killing the brāhmaṇas and cows. Especially

in this age, Kali-yuga, cows are being killed all over the world, and as soon as there is a movement to establish brahminical civilization, people in general rebel.

-Śrīmad-Bhāgavatam 10.4.41 Purport

In a society or civilization in which there are no brāhmaṇas or brahminical culture, cows are treated as ordinary animals and slaughtered, at the sacrifice of human civilization.

-Śrīmad-Bhāgavatam 4.21.44 Purport

Cows, however, are never meant to be killed or eaten by human beings. In every śāstra, cow killing is vehemently condemned. Indeed, one who kills a cow must suffer for as many years as there are hairs on the body of a cow.

Manusamītā says, pravṛttir eṣā bhūtānām nivṛttis tu mahā-phalā: we have many tendencies in this material world, but in human life one is meant to learn how to curb those tendencies. Those who desire to eat meat may satisfy the demands of their tongues by eating lower animals, but they should never kill cows, who are actually accepted as the mothers of human society because they supply milk. The śāstra especially recommends, kṛṣi-go-rakṣya: the vaiśya section of humanity should arrange for the food of the entire society through agricultural activities and should give full protection to the cows, which are the most useful animals because they supply milk to human society.

-Śrīmad-Bhāgavatam 6.4.9 Purport



WHY SEPTEMBER 11?

Animal Slaughter =War ISCOWP
News Volume 11 issue 3

Highlights: “Men do not understand that because they unrestrictedly kill so many animals, they also must be slaughtered like animals in big wars.The reaction must be there. You are killing innocent cows and animals. Nature will take revenge.....To kill cows means to end human civilization.

Editor’s Note: The following quotes connect animal slaughter, specifically cow slaughter, to war and tragedy. In reality, cow protection is at the forefront of preventing such incidences. The quotes are from talks and purports of Vedic scriptures by His Divine Grace A.C. Bhaktivedanta Prabhupāda, Founder Ācārya of the International Society for Kṛṣṇa Consciousness, and various religions and authors/philosophers. ISCOWP News Volume 11 Issue 3

The Golden Rule, “Do unto others as you would have others do unto you,” Is one of the uniting principles in the world’s major religious traditions.

In Judaism, it is taught, “What is hateful to you, do not to your fellowmen.” -*Talmud, Shabbat 31a*

Christianity teaches, “Whatever ye would that men should do to you, do you even so to them.”
-*Matthew 7:12*

The followers of Islam declare, “No one of you is a believer until he desires for his brother that which he desires for himself.” -*Sunnah, Hadith*

In Confucianism it is said, “Surely it is the maxim of loving kindness: Do not unto others that which you would not have them do unto you.”
-*Analects 15.23*

Buddhism also teaches, “Hurt not others in ways that you yourself would find hurtful.’

-*Udana-Varga 5.18*

And finally, in the world’s earliest religious scriptures, the Vedic literature, we find, “This is the sum of duty: Do naught unto others which would cause you pain if done unto you.”

-*Mahābharāta 5.1517*

The world of science echoes the world’s religions with its own equivalent of the Golden Rule. Newton’s Third Law of Motion says that “For every action, there is an equal and opposite reaction.” While Newton’s law applies only to material nature, the implications run deeper still, extending to the most subtle levels of existence. In the East, this is called the law of karma.

In a very fundamental sense, too, this law relates to our treatment of animals. The violence in society is at least in part the result of our merciless diet and abuse of the natural world around us. In karmic terms, violence begets violence. In dietary terms, you are what you eat.

-*Food for the Spirit, Steven Rosen*

Not to hurt our humble brethren (the animals) is our first duty to them, but to stop there is not enough. We have a higher mission--to be of service to them whenever they require it... If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men.

-*Saint Francis of Assisi (mystic and preacher)*

Prabhupāda: [...] But in the western country the cows are specially being killed. Now the reaction is war, crime, and they are now repentant. And they will have to repent more and more.

Jayatīrtha: So the wars and the crime are a direct result of the cow slaughter.

Prabhupāda: Oh, yes. Oh, yes. It is a wholesale

ŚRĪLA PRABHUPĀDA ON COW PROTECTION

reaction. All these crises are taking place.

*-Room Conversation with Mr. & Mrs. Wax,
Writer and Editing Manager of Playboy
- Magazine -- July 5, 1975, Chicago*

Until he extends the circle of compassion to all living things, man will not himself find peace.

-Albert Schweitzer

In this age of Kali the propensity for mercy is almost nil. Consequently there is always fighting

Sometimes during war, soldiers keep their enemies in concentration camps and kill them in very cruel ways. These are reactions brought about by unrestricted animal-killing in the slaughterhouse and by hunters in the forest. Proud, demoniac persons do not know the laws of nature, or the laws of God. Consequently, they unrestrictedly kill poor animals, not caring for them at all. In the Kṛṣṇa consciousness movement, animal-killing is completely prohibited *-Śrīmad-Bhāgavatam 4.26.5 Purport*



Vraja & Gītā, saved from the slaughterhouse, & their teamster Balabhadra are logging in the winter.

and wars between men and nations. Men do not understand that because they unrestrictedly kill so many animals, they also must be slaughtered like animals in big wars. This is very much evident in the Western countries. In the West, slaughterhouses are maintained without restriction, and therefore every fifth or tenth year there is a big war in which countless people are slaughtered even more cruelly than the animals.

To be nonviolent to human beings and to be a killer or enemy of the poor animals is Satan's philosophy. In this age there is enmity toward poor animals, and therefore the poor creatures are always anxious. The reaction of the poor animals is being forced on human society, and therefore there is always the strain of cold or hot war between men, individually, collectively or nationally. *-Śrīmad-Bhāgavatam 1.10.6 Purport*

Until we have the courage to recognize cruelty for what it is--whether its victim is human or animal--we cannot expect things to be much better in this world... We cannot have peace among men whose hearts delight in killing any living creature. By every act that glorifies or even tolerates such moronic delight in killing we set back the progress of humanity." -*Rachel Carson*

We are the living graves of murdered beasts, slaughtered to satisfy our appetites. How can we hope in this world to attain the peace we say we are so anxious for? -*George Bernard Shaw*
(*Living Graves, published 1951*)

As long as men massacre animals, they will kill each other. Indeed, he who sows the seeds of murder and pain cannot reap joy and love.
-*Pythagoras (6th century BC)*

Prabhupāda: So use this. This is one of the business. Kṛṣi-go-rakṣya-vāṇijyaṃ vaiśya-karma svabhāva-jam. We don't stop trade. We don't stop food, producing food grains. But we want to stop these killing houses. It is very, very sinful. Therefore in Europe, so many wars. Every ten years, fifteen years, there is a big war and wholesale slaughter of the whole human kind. And these rascals, they do not see it. The reaction must be there. You are killing innocent cows and animals. Nature will take revenge. Wait for that. As soon as the time is ripe, the nature will gather all these rascals, and club, slaughter them. Finished. They will fight amongst themselves, Protestant and Catholic, Russian and France, and France and Germany. This is going on. Why? This is the nature's law. Tit for tat. You have killed. Now you become killed. Amongst yourselves. They are being sent to the slaughter house. And here, you'll create slaughterhouse, "Dum! dum!" and killed, be killed. You know. You showed me?

-*Room Conversation June 11, 1974, Paris*

We don't want to stop trade or the production of grains and vegetables and fruit. But we want to stop these killing houses. It is very, very sinful. That is why all over the world they have so many wars. Every ten or fifteen years there is a big war ...a wholesale slaughterhouse for humankind. But these rascals ...they do not see it, that by the law of karma, every action must have its reaction.

You are killing innocent cows and other animals -- nature will take revenge. Just wait. As soon as the time is right, nature will gather all these rascals and slaughter them. Finished. They'll fight amongst themselves -- Protestants and Catholics, Russia and America, this one and that one. It is going on. Why? That is nature's law. Tit for tat. "You have killed. Now you kill yourselves."

They are sending animals to the slaughterhouse, and now they'll create their own slaughterhouse. [Imitating gunfire:] Tung! Tung! Kill! Kill! You see? Just take Belfast, for example. The Roman Catholics are killing the Protestants, and the Protestants are killing the Catholics. This is nature's law. -*The Journey of Self-Discovery 6.5*

As long as there are slaughterhouses, there will be battlefields.
-*Leo Tolstoy*

If slaughterhouses had glass walls, everyone would be vegetarian. We feel better about ourselves and better about the animals, knowing we're not contributing to their pain.

-*Paul and Linda McCartney*

Unfortunately, because people in Kali-yuga are mandāḥ, all bad, and sumanda-matayaḥ, misled by false conceptions of life, they are killing cows in the thousands. Therefore they are unfortunate in spiritual consciousness, and nature disturbs them in so many ways, especially through incurable diseases like cancer and through frequent wars and among nations. As long as

human society continues to allow cows to be regularly killed in slaughterhouses, there cannot be any question of peace and prosperity.

-*Śrīmad-Bhāgavatam* 8.8.11 Purport

To kill cows means to end human civilization.

-*Śrīmad-Bhāgavatam* 1.4.9 Purport

COW PROTECTION AND ECONOMIC DEVELOPMENT

Highlights: *“The basic principle of economic development is centered on land and cows....With only these two things, cows and grain, humanity can solve its eating problem....Progressive human civilization is based on brahminical culture, God consciousness and protection of cows. All economic development of the state by trade, commerce, agriculture and industries must be fully utilized in relation to the above principles, otherwise all so-called economic development becomes a source of degradation.”*

People do not know what they are doing in the name of economic development.

-*Śrīmad-Bhāgavatam* 1.17.3 Purport

TRANSLATION

During the reign of Mahārāja Yudhiṣṭhira, the clouds showered all the water that people needed, and the earth produced all the necessities of man in profusion. Due to its fatty milk bag and cheerful attitude, the cow used to moisten the grazing ground with milk.

PURPORT

The basic principle of economic development is centered on land and cows. The necessities of human society are food grains, fruits, milk, minerals, clothing, wood, etc. One requires all these items to fulfill the material needs of the body. Certainly one does not require flesh and fish or iron tools and machinery.

During the regime of Mahārāja Yudhiṣṭhira, all over the world there were regulated rainfalls. Rainfalls are not in the control of the human being. The heavenly King Indradeva is the controller of rains, and he is the servant of the Lord. When the Lord is obeyed by the king and the people under the king’s administration, there are regulated rains from the horizon, and these rains are the causes of all varieties of production on the land. Not only do regulated rains help ample production of grains and fruits, but when they combine with astronomical influences there is ample production of valuable stones and pearls.

Grains and vegetables can sumptuously feed a man and animals, and a fatty cow delivers enough milk to supply a man sumptuously with vigor and vitality. If there is enough milk, enough grains, enough fruit, enough cotton, enough silk and enough jewels, then why do the people need cinemas, houses of prostitution, slaughterhouses, etc.? What is the need of an artificial luxurious life of cinema, cars, radio, flesh and hotels? Has this civilization produced anything but quarreling individually and nationally? Has this civilization enhanced the cause of equality and fraternity by sending thousands of men into a hellish factory and the war fields at the whims of a particular man?

We are all creatures of material nature. In the Bhagavad-gītā it is said that the Lord Himself is the seed-giving father and material nature is the mother of all living beings in all shapes. Thus mother material nature has enough foodstuff both for animals and for men, by the grace of the Father Almighty, Śrī Kṛṣṇa. The human being is the elder brother of all other living beings. He is endowed with intelligence more powerful than animals for realizing the course of nature and the indications of the Almighty Father. Human civilizations should depend on the production of material nature without artificially attempting

economic development to turn the world into a chaos of artificial greed and power only for the purpose of artificial luxuries and sense gratification. This is but the life of dogs and hogs.

- *Śrīmad-Bhāgavatam* 1.10.4

As He grew to six and seven years old, the Lord was given charge of looking after the cows and bulls in the grazing grounds. He was the son of a well-to-do landholder who owned hundreds and thousands of cows, and according to Vedic economics, one is considered to be a rich man by the strength of his store of grains and cows. With only these two things, cows and grain, humanity can solve its eating problem. Human society needs only sufficient grain and sufficient cows to solve its economic problems. All other things but these two are artificial necessities created by man to kill his valuable life at the human level and waste his time in things which are not needed.

-*Śrīmad-Bhāgavatam* 3.2.29 Purport

In this statement, Lord Kṛṣṇa practically described the whole economy of the vaiśya community. In all communities in human society—including the brāhmaṇas, kṣatriyas, vaiśyas, śūdras, caṇḍālas, etc.— and in the animal kingdom—including the cows, dogs, goats, etc.—everyone has his part to play. Each is to work in cooperation for the total benefit of all society, which includes not only animate objects but also inanimate objects like hills and land. The vaiśya community is specifically responsible for the economic improvement of the society by producing grains, by giving protection to the cows, by transporting food when needed, and by banking and finance.

-*Kṛṣṇa Book 24: Worshiping Govardhana Hill*

So that others may follow that “You... Why you are making big, big plan of big, big factories? You take to this process for your economic problem solved.” Kṛṣṇa advises, kṛṣi-go-rakṣya-vāṇijyam vaiśya-karma svabhāva-jam. This is the agricul

ture, cow protection, trade. No industry. Kṛṣṇa never says industry, trade. Trade means... Suppose here we are attempting to grow food stuff. So after eating for ourselves, if there is excess, then we can take this food grains or anything which we have produced to a place where there is need. That is called trade. Trade in exchange also. There is exchange. That is also trade. So that is recommended by Kṛṣṇa, and because we are Kṛṣṇa conscious, we must abide by the order of Kṛṣṇa, kṛṣi-go-rakṣya-vāṇi... Not for all, but a class of men, they are in the third category. -*Lecture Bhagavad-gītā* 3.25 Hyderabad, December 17, 1976

Interviewer: In this age, how has the, you know, instrument of production because of this tractor, mechanization of agriculture.

Prabhupāda: So that is your interpretation. But we are trying to present Bhagavad-gītā as it is. That is our mission. That you produce food grains sufficiently and give protection to the cows so that food grains and milk will give you all benefits of economic question. You’ll be satisfied. That’s all.

Unnecessarily they are killing these cows, and this shortage of foodstuff and shortage of milk, this is not good arrangement. The recommended process in the Bhagavad-gītā, that annād bhavanti bhūtāni. If you have sufficient foodstuff, then everyone is satisfied. And it is the duty of the vaiśya class, kṛṣi go-rakṣya vāṇijyam; go-rakṣya vāṇijyam vaiśya-karma svabhāva-jam. The, according to Bhagavad-gītā, this is the business of the vaiśyas. The brāhmaṇas, they should be very much highly educated, enlightened in spiritual knowledge. The kṣatriyas, they should govern, give protection. The vaiśyas, they should produce enough food. And those who are neither brāhmaṇa nor kṣatriya, śūdras, they can help. That’s all. This is their.... Then everyone will be satisfied.

-*Interview, Chandigarh, October 16, 1976*

TRANSLATION:

The means of livelihood of all persons, namely production of grains and their distribution to the prajāś, was generated from the thighs of the Lord's gigantic form. The mercantile men who take charge of such execution are called vaiśyas.

PURPORT:

Human society's means of living is clearly mentioned here as viśā, or agriculture and the business of distributing agricultural products, which involves transport, banking, etc. Industry is an artificial means of livelihood, and large-scale industry especially is the source of all the problems of society. In Bhagavad-gītā also the duties of the vaiśyas, who are engaged in viśā, are stated as cow protection, agriculture and business. We have already discussed that the human being can safely depend on the cow and agricultural land for his livelihood.

-Śrīmad-Bhāgavatam 3.6.32

The importance of protecting cows is therefore stressed by Kṛṣṇa in Bhagavad-gītā (kṛṣi-go-rakṣya-vāñijyaṁ vaiśya-karma svabhāvajam). Even now in the Indian villages surrounding Vṛndāvana, the villagers live happily simply by giving protection to the cow. They keep cow dung very carefully and dry it to use as fuel. They keep a sufficient stock of grains, and because of giving protection to the cows, they have sufficient milk and milk products to solve all economic problems. Simply by giving protection to the cow, the villagers live so peacefully. Even the urine and stool of cows have medicinal value.

-Śrīmad-Bhāgavatam 10.6.19

So actually, human opulence means not these tin cars. Once it is dashed with another car, it is finished, no value. Human opulence means the society must have enough gold, enough jewelry, enough silk, enough grains, enough milk, enough vegetables, like that. That is opulent. That is opulence.

Formerly a person was considered rich by two things: dhānyena dhanavān. How much grain stock he has got at his home. A big, big barn, filled with grains. Still in India, if I am going to give my daughter to some family, to see the family's opulence, I go to see the house, and if I see there are many, many barns' stock of grains and many cows, then it is very good. It is opulent. Dhānyena dhanavān, gavyaṁ dhanavān.

A man is considered to be rich when he has got enough quantity of grains, enough quantity of, I mean to say, number, enough number of cows. Just like Mahārāja, Nanda Mahārāja, the foster father of Kṛṣṇa. He was keeping 900,000 cows. And He was rich man. He was mahārāja, king. But see the behavior. His beloved son, Kṛṣṇa and Balarāma, he has entrusted to take care of the calves or cows: "Go in the forest." He is well dressed with ornament, and nice dress, everything. All the cowherds boys, they are very rich. They have got enough grains and enough milk. Naturally they will be rich. But not that the cows and the calves will be taken care of by some hired servant. No. They would take care himself.

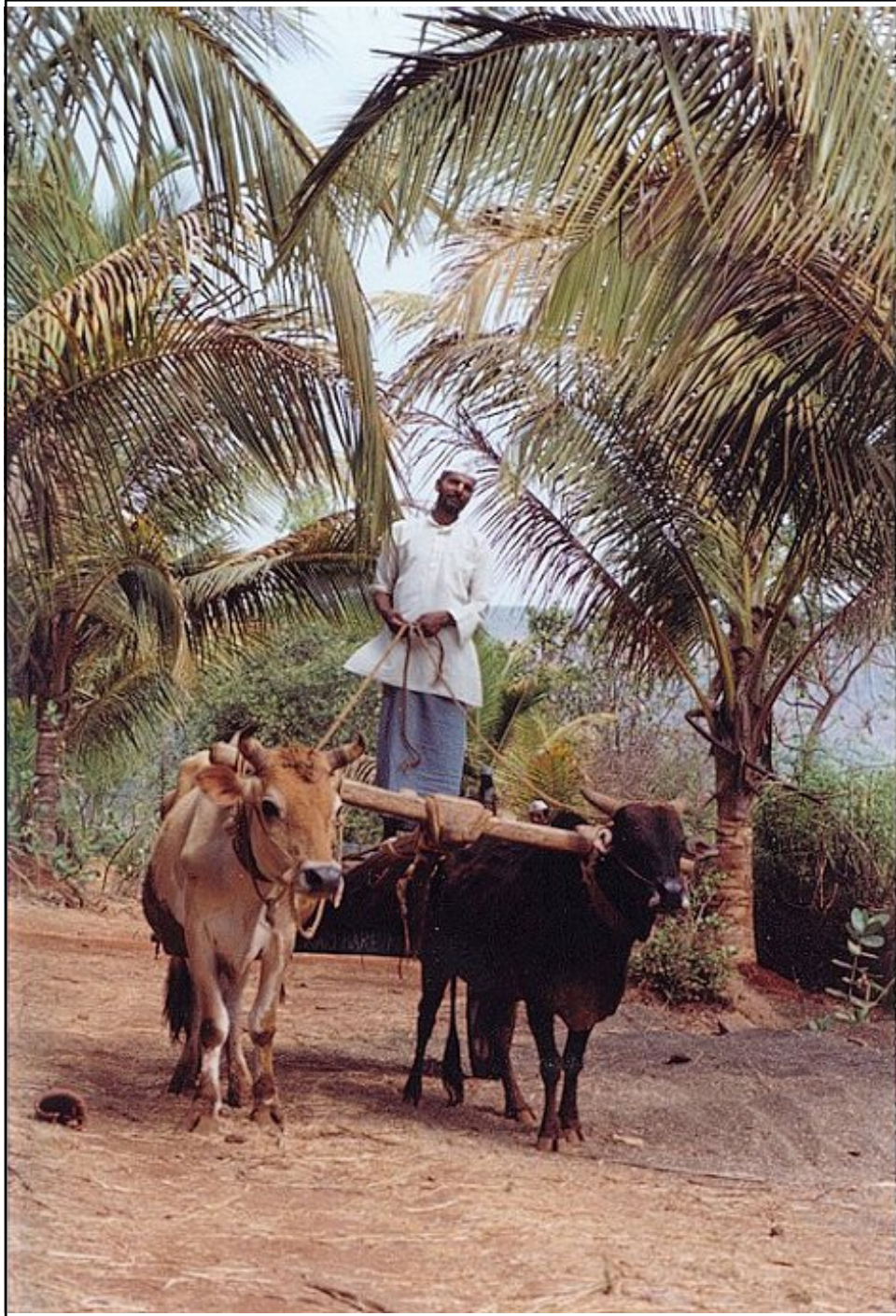
-Prabhupāda's Lectures Śrīmad Bhāgavatam 1.9.2 May 16, 1973 Los Angeles

It is not a fact that jungles and trees attract clouds and rain, because we find rainfall over the sea. Human beings can inhabit any place on the surface of the earth by clearing jungles and converting land for agricultural purposes. People can keep cows, and all economic problems can be solved in that way. One need only work to produce grains and take care of the cows. The wood found in the jungles may be used for constructing cottages. In this way the economic problem of humanity can be solved.

-Śrīmad-Bhāgavatam 4.18.7 Purport

Progressive human civilization is based on brahminical culture, God consciousness and protection of cows. All economic development of the state by trade, commerce, agriculture and Industries must be fully utilized in relation to the above principles, otherwise all so-called economic development becomes a source of degradation.

-Śrīmad-Bhāgavatam 1.19.3



PHILOSOPHICAL AND PRACTICAL

COW CARE

Highlights: “Our cow-protection program in India should be the exemplary standard for the whole world....Cow protection means just like Bhagavān, the Supreme Personality of Godhead, He is tending the cows. He is going, taking the cows personally from His royal palace going to the forest whole day, working there....Completely separation is not good. And after birth at least for one week the calf should be allowed.”

One day all the boys, including Kṛṣṇa and Balarāma, each boy taking his own group of calves, brought the calves to a reservoir of water, desiring to allow them to drink. After the animals drank water, the boys drank water there also.

-Śrīmad-Bhāgavatam 10.11.46 Translation

The cows also, who were away in the pasturing ground, returned in the evening and called their respective calves. The calves immediately came to their mothers, and the mothers began to lick the bodies of the calves.

-Kṛṣṇa Book 13 *The Stealing of the Boys and Calves* by Brahmā

Please accept my blessings. I have heard that you are a very good man with cows. Your service would be very valuable here in India. I think that you could travel to the centers here where we keep cows and try to establish a very high cow-protection standard.

Our cow-protection program in India should be the exemplary standard for the whole world.

-Letter to: Devakīnandana Māyāpūr April 8, 1975

While engaged in talking about New Vrindaban during Prabhupāda's massage yesterday, I mentioned how we used to do cow āratīs. At

that point Prabhupāda frowned. I asked if they were okay to do, and he said no. I asked if there was anything special to do for the cows. He said keep them clean, brush them nicely, bathe them, and also you can polish their horns and hooves.

-Prabhupāda Nectar, Vol. 4, by Satsvarāpa dās Goswāmī, p. 11. (excerpt from a letter from Śrutakīrti dās to Kīrtanānanda Swami, September 27, 1972) 1991 by Bhaktivedanta Book Trust

Guest (8): You'll be talking about the cow protection also.

Prabhupāda: Oh, yes. Oh, yes. Whatever Kṛṣṇa has said. Kṛṣṇa says, kṛṣi-go-rakṣya-vāñijyam vaiśya-karma svabhāva-jam. He is giving you. That is our duty. I told these boys, “The cows, whether they give milk or not milk, it doesn't matter. They should be given protection.”

Guest (8): They should be given?

Prabhupāda: Given protection. If Kṛṣṇa says, go-rakṣya... He doesn't say only give protection to the milk cow.

Guest (8): Once they expire, how do you propose to dispose of the body?

Prabhupāda: Then they can eat, those who are eating cows. Just like in our country the cāmāras, they take away and take the skin for preparing shoes and eat the flesh and use the bone. So we request those who are flesh eaters, that “Wait up to the natural death. Why you are killing?”

Guest (9): So you support actually government ban of slaughter.

Prabhupāda: Certainly.

Guest (9): After the cow is dead, if the flesh is taken, it is...

Prabhupāda: Yes.

Guest (9): You have no objection.

Prabhupāda: No. The vultures, they live on the cow's flesh, so what objection we have got? We don't... We say, “Don't kill.”

Guest (9): After the natural death, not slaughter.

Prabhupāda: Yes. Yes. If they are... Now you can

do whatever you like.

-Press Conference December 16, 1976, Hyderabad

Protection of bulls and cows and all other animals can be possible only when there is a state ruled by an executive head like Mahārāja Parīkṣit. Mahārāja Parīkṣit addresses the cow as mother, for he is a cultured, twice-born, kṣatriya king. Surabhi is the name of the cows which exist in the spiritual planets and are especially reared by Lord Śrī Kṛṣṇa Himself. As men are made after the form and features of the Supreme Lord, so also the cows are made after the form and features of the surabhi cows in the spiritual kingdom. In the material world the human society gives all protection to the human being, but there is no law to protect the descendants of Surabhi, who can give all protection to men by supplying the miracle food, milk.

-Bhagavad-gītā 10.25 Purport

We have to keep some cows. Never mind we are to take payment from others. That is not cow protection. Cow protection means just like Bhagavān, the Supreme Personality of Godhead, He is tending the cows. He is going, taking the cows personally from His royal palace going to the forest whole day, working there. Is it not, cowherds boy? And taken some little fruit, mother, whatever mother has given. They are playing that.

So this is cow protection, not that “Somebody will give money and we shall keep some third class cows and feed there and become cow protector.”

We must tend the cows very nicely so that they give us sufficient milk. And with that milk we shall live. “No, because we are giving protection to cow, you send money for the cows and the cow protectors, and earn money there and give us money. We shall eat nicely and sleep.”

As soon as this practice is going on, then next will be: “Give me some LSD, give me something

else.” This will go on. We don’t want that.

Similarly, the GBC member means they will see that in every temple these books are very thoroughly being read and discussed and understood and applied in practical life. That is wanted, not to see the vouchers only, “How many books you have sold, and how many books are in the stock?” That is secondary.

*-Prabhupāda’s Lectures Śrīmad-Bhāgavatam 2.9.2
April 05, 1972 Melbourne*

And it was very sportive engagement with the cowherd boys. The cows were grazing, and the boys, they took their meals in a pot, tiffin carrier. Not tiffin carrier in those days. Some way or other. And they used to eat them, distribute amongst the friends. Sometimes a tiffin carrier was stolen by one boy, and he was searching, and then it was... So just like the boys do. This was the children’s life, to take protection, to give protection to the cows, to the calves.

The small children, up to six years, seven years old, they used to take care of the calves, and the elderly men, they used to take care of the... Or elderly boys, they used to take care of the grown-up cows. So the cows were fed very nicely. Vrajān. Therefore Vṛndāvana is called Vrajabhūmi, “where there are many cows.” It is called Gokula. Gokula. Go means cows, and kula means group. Gokula. Govardhana. Govardhana Hill. Because the cows were grazing on the hill, and profuse grass was being grown, and they are enjoying. So there should be arrangement. Just like here we see, there are so many open fields and the cows are grazing. But they cannot be happy because they know that they are simply raised for being killed. They cannot be happy.

-Prabhupāda’s Lectures Śrīmad-Bhāgavatam 1.10.4

Bhagavān: There was a question about the cows: At what point should the calf be separated from the mother? Because sometimes when the calf is separated, the mother, she cries.

Prabhupāda: No, they should not be taken away.

Bhagavān: Shouldn't be.

Hari-śauri: I think in all our farms they do that.

Bhagavān: I heard in New Vrindaban they took them away very early.

Hari-śauri: The problem is that the calves drink so much milk that they become very sick, so they have to separate.

Prabhupāda: Therefore they should not be allowed always. Once in a day, that's all.

Hari-śauri: Oh.

Prabhupāda: Not too much allowed, but once. At least while milking they should be allowed to drink little milk, and that will encourage the mother to deliver more milk.

Hari-śauri: Oh. At the same time they're milking the cow, the calf can come.

Prabhupāda: Yes. They can bring it milk. And while milking, the calf may be standing before the mother.

Hari-śauri: They do that in India.

Prabhupāda: So she will not be sorry. Completely separation is not good. And after birth at least for one week the calf should be allowed. Because after this giving birth the milk is not fit for human consumption. The calf should not be allowed to eat more, but at the same time the mother must see once, twice, then it will be all right. Of course, we are born in big, big towns, we do not know, but I know this is the process. In Allahabad I was keeping cow, there was facility.

Bhagavān: I don't think our farms are doing like that. In New Vrindaban they do?

Hari-śauri: What, letting the calves come? I don't think so. You can write a letter to... The whole system's so perfect, it's completely satisfying in every respect.

Prabhupāda: And if you make others dissatisfied for your pleasure, that is sinful. You should act in such a way that nobody is dissatisfied. Then there is balance.

-Room Conversation New Māyāpur Farm August 2, 1976 Prabhupāda on Cow Care

Why artificial insemination? We should avoid that. The physiology is, if the semina is more, then comes bull.

-Letter Balavanta January 3, 1977

So in our country, mucī, the cobbler, is taken as the lowest of the mankind, narādhamaḥ, because their business is when the cow dies, so the mucīs are prepared to take away the dead cow or bull. They eat the flesh, and they take out the skin and the bones for their business. Mucī prepare shoes. He gets the skin for nothing, without any payment. He doesn't have to invest his capital, and he nicely cleanses it, tans, and then prepares shoes and sell in the market. So get the money. And the mucī class, they eat this flesh, meat. But they are given the opportunity when the cow is dead, not by slaughterhouse. That is not in the Vedic scripture. The dead animal, you can eat. Those who are fond of eating fish and meat, they can eat when the animal is dead. Not killing. That is not very good thing. So the mucī class, their business is to take the dead... After all, everyone will die.

-Lecture Śrī Caitanya-caritāmṛta, Ādi-līlā 7.1
Atlanta, March 1, 1975

Solve your problem like... Produce your food wherever you are there. Till little, little labor, and you will get your whole year's food. And distribute the food to the animal, cow, and eat yourself. The cow will eat the refuse. You take the rice, and the skin you give to the cow. From dahl you take the grain, and the skin you give to the... And fruit, you take the fruit, and the skin you give to the cow, and he will give you milk. So why should you kill him?

-Discussions with Hayagrīva Vedabase undated



MILK

Highlights: *The protection of cows maintains the most miraculous form of food, i.e., milk for maintaining the finer tissues of the brain for understanding higher aims of life....Milking the cow means drawing the principles of religion in a liquid form....Pañca-gavya, the five products received from the cow, namely milk, yogurt, ghee, cow dung and cow urine, are required in all ritualistic ceremonies performed according to the Vedic directions.*

Vedic civilization gives protection to all the living creatures, especially the cows, because they render such valuable service to the human society in the shape of milk, without which no one can become healthy and strong.

*-Letter to: Rūpānuga,
Vrindaban, December
7, 1975*

The reason is that the bull helps production of grains in the agricultural fields, and the cow delivers milk, the miracle of aggregate food values.

-Śrīmad-Bhāgavatam 1.16.18 Purport

The protection of cows maintains the most miraculous form of food, i.e., milk for maintaining the finer tissues of the brain for understanding higher aims of life.

-Śrīmad-Bhāgavatam 1.8.5 Purport

Milking the cow means drawing the principles of religion in a liquid form. The great ṛṣis and munis would live only on milk.

-Śrīmad-Bhāgavatam 1.17.3 Purport

Every state and home must endeavor to advance the cause of brahminical culture for self-purification, God consciousness for self-realization and cow protection for getting sufficient milk and

the best food to continue a perfect civilization. *-Śrīmad-Bhāgavatam 1.19.3 Purport*

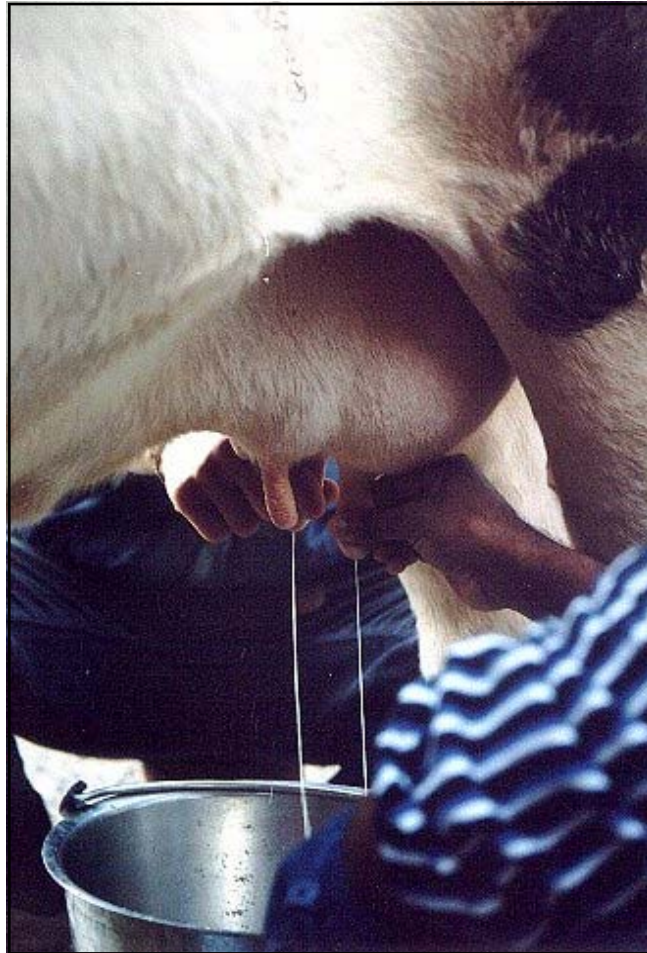
In the the material world, everyone is trying to get some material happiness, but as soon as we get some material happiness, there is also material distress. In the material world one cannot have unadulterated happiness. Any kind of happiness one has is contaminated by distress also. For example, if we want to drink milk then we have to bother to maintain a cow and keep her fit to supply

milk. Drinking milk is very nice; it is also pleasure. But for the sake of drinking milk one has to accept so much trouble.

-Śrīmad-Bhāgavatam 3.25.13 Purport

PURPORT

The surabhi cow is described as havirdhānī, the source of butter. Butter, when clarified by melting, produces ghee, or clarified butter, which is inevitably necessary for performing great ritualistic



sacrifices. As stated in Bhagavad-gītā (18. 5), yajña-dāna-tapaḥ-karma na tyājyaṁ kāryam eva tat: sacrifice, charity and austerity are essential to keep human society perfect in peace and prosperity. Yajña, the performance of sacrifice, is essential; to perform yajña, clarified butter is absolutely necessary; and to get clarified butter, milk is necessary. Milk is produced when there are sufficient cows. Therefore in Bhagavad-gītā (18.44), cow protection is recommended (kṛṣi-go-rakṣya-vāñijyaṁ vaiśya-karma svabhāva jam). -*Śrīmad-Bhāgavatam 8.8: The Churning of the Milk Ocean*

So similarly, vaiśya. Vaiśya, they should be trained in three things, productive— kṛṣi-go-rakṣya-vāñijyaṁ vaiśya-karma svabhāva-jam—kṛṣi, agriculture; go-rakṣya, cow protection. Go-rakṣya. That is essential, agricultural and cow protection. And vāñijyam. Vāñijyam means trade. If there is excess milk product, if there is excess grain product, then you can sell to others.

Nowadays the trade is that you take as much milk as you can, and then kill the animal and sell the flesh to other countries. That is going on. No. Go-rakṣya. Go-rakṣya. -*Lecture Śrīmad-Bhāgavatam 1.61.1 December, 29 1073 Los Angeles*

The mercantile class is meant for producing food grains and distributing them to the complete human society so that the whole population is given a chance to live comfortably and discharge the duties of human life. The mercantile class is also required to give protection to the cows in order to get sufficient milk and milk products, which alone can give the proper health and intelligence to maintain a civilization perfectly meant for knowledge of the ultimate truth.

-*Śrīmad-Bhāgavatam 2.5.37 Purport*

If we really want to cultivate the human spirit in society we must have first-class intelligent men to guide the society, and to develop the finer tissues of our brains we must assimilate vitamin values from milk. Devotees worship Lord Śrī Kṛṣṇa by addressing Him as the well-wisher of the brāhmaṇas and the cows. The most intelligent class of men, who have perfectly attained knowledge in spiritual values, are called the brāhmaṇas. No society can improve in transcendental knowledge without the guidance of such first-class men, and no brain can assimilate the subtle form of knowledge without fine brain tissues. For such important brain tissues we require a sufficient quantity of milk and milk preparations. Ultimately, we need to protect the cow to derive the highest benefit from this important animal. The protection of cows, therefore, is not merely a religious sentiment but a means to secure the highest benefit for human society.

-*Light of the Bhāgavata Preface*

Milk is compared to nectar, which one can drink to become immortal. Of course, simply drinking milk will not make one immortal, but it can increase the duration of one's life. In modern civilization, men do not think milk to be important, and therefore they do not live very long. Although in this age men can live up to one hundred years, their duration of life is reduced because they do not drink large quantities of milk.

-*Śrīmad-Bhāgavatam 8.6.1 Purport*

Killing of cows means utilizing the blood in different form. The milk is also another transformation of the blood. So if you take milk sufficiently and prepare nice foodstuff, then it is equally beneficial like the meat from health point of view. But one must know the..., learn that keep the cow living; at the same time be benefited by the blood. Therefore in the Bhagavad-gītā you will find this word kṛṣi-go-rakṣya. Go-rakṣya. This animal has to be

protected. Not other animals it is mentioned.

-Room Conversation July 5, 1975, Chicago

TRANSLATION

The land became a person and collected all the drugs and herbs needed for installing the Deity. The cows delivered five products, namely milk, yogurt, ghee, urine and cow dung, and spring personified collected everything produced in spring, during the months of Caitra and Vaiśākha [April and May].

PURPORT

Pañca-gavya, the five products received from the cow, namely milk, yogurt, ghee, cow dung and cow urine, are required in all ritualistic ceremonies performed according to the Vedic directions. *-Śrīmad-Bhāgavatam 8.8.11*

The cow's calf not only is beautiful to look at, but also gives satisfaction to the cow, and so she delivers as much milk as possible. But in the Kali-yuga, the calves are separated from the cows as early as possible for purposes which may not be mentioned in these pages of Śrīmad-Bhāgavatam. The cow stands with tears in her eyes, the śūdra milkman draws milk from the cow artificially, and when there is no milk the cow is sent to be slaughtered. These greatly sinful acts are responsible for all the troubles in present society.

-Śrīmad-Bhāgavatam 1.17.3 Purport

The farming and opening the restaurant are correlative...in farming you produce enough milk and milk products, at least ghee, and the ghee is dispatched to the restaurant in the city and with that you prepare first-class samosās,



kacories, vegetables, halavā--so many things people will like very much. The principle is that not a drop of milk should be misused.

-Letter to: Tuṣṭa Kṛṣṇa Swami November 9, 1975

COW DUNG/URINE

Highlights: There shall be a Governing Body Commission whose purpose is to..(n) To promote Vedic research work in the area of agriculture and animal husbandry, and alternative energy sources according to the historic Vedic texts for the sound and healthy development of body, mind, and soul; and to promote and distribute this research work....subsequently it has been proved by modern science that cow dung contains all antiseptic properties.....Dr. Monmohan Gosh, he was pathologist in medical college. He proved the antiseptic properties of gobara.

Just like for practical life I will say some examples, that cow dung. In India cow dung is accepted as very pure. So in one place of the Vedic injunction you will find that "Any stool of animal is impure." That's a fact. Everyone knows. Even your own stool, what to speak of other animals'—impure. But in another place says, "Exception is given to the cow's stool, cow dung. That is pure." It is so pure that if you apply on some impure place, it becomes pure. That's a fact. In India still, especially in villages, they mop the floor with cow dung, and it is so nice and so fresh. You can try. Here also there are cows. You take cow dung and you can see how it is antiseptic. We are actually doing in America in our New Vrindaban.

-Lecture April 14, 1972 Auckland

In India of course, a cow is protected and the cowherdsmen they derive sufficient profit by such protection. Cow dung is used as fuel. Cow dung dried in the sunshine kept in stock for utilizing them as fuel in the villages. They get wheat and other cereals produced from the field.

There is milk and vegetables and the fuel is cow dung, and thus, they are self-independent in every village. There are hand weavers for the cloth. And the country oil-mill (consisting of a bull walking in circle round two big grinding stones, attached with yoke) grinds the oil seeds into oil. *-Letter Hayagrīva June 14, 1968*

Indian man: So can I know the reason why you are restraining the use of gobar gas now. I could not understand actual technical difficulty. Is there any difficulty?

Prabhupāda: No, we can utilize the gobar in different way.

Indian man: No, but gobar gas is not good, that's why...

Prabhupāda: No, no, not good. But we have to arrange for this plant, generate gas. So why not direct?

Indian man: No, but the fuel is achieved, but the fertilizer is lost. Gobar, there are two elements. One is a methane gas and one is fertilizer. If you burn it you are burning the fertilizer which is very, very important, and very, very useful against the fuel that we get.

Prabhupāda: No, that ash is very good.

Indian man: No ash is not the full fertilizer. It is only partial. 10% of the fertilizer becomes ash. The organic matter is burned with great loss to the society and the earth.

Prabhupāda: But in our Māyāpura, that plant, we spent so much, it has not become successful.

Indian man: No that is mechanical fault. Just like electricity now it has failed. Now sir, we should not stop utilizing electricity.

Prabhupāda: No, any machine, that defect will be there.

Indian man: But that we have been working for twenty years in Ahmedabad. Everybody is very happy there, and they're actually making money out of it. The fertilizer that is there is about four times what is normally achieved. So good maintenance are required for any...

Prabhupāda: (sneezes loud) I have no objection, but I've got experience. In Māyāpura it is failure.

Indian man (2): Sometimes we get a defective machine. I purchased one for my girl's house. I've got a number of about 30. But one was rejected but...

Indian man: Either defective machine or defective maintenance.

Prabhupāda: Maybe. But the difficulty is there. (sneezes) (pause)

-Room Conversation December 26, 1976, Bombay

We shall never use this artificial fertilizer on our farms. It is forbidden in the śāstras. If you plant easily grown crops once in the year, then the earth will not become exhausted. Don't overuse the land. *-Letter Rūpānuga January 11, 1976*

First of all there was no need of big, big cities because there was no industry. They did not know what is industry. And there were ample food—food grains, milk, vegetables. Those who were eating meat, they were eating small, nonimportant animals like goats, hogs, and they never touched cows. Cows are very important animals. Even the stool, urine, is important. In the agricultural field the cows, passing stool, they will also benefit. Natural fertilizing.

-Morning Walk December 27, 1976, Bombay

Prabhupāda: ...earning and cow protection. You must do it. The other day I was explaining that not from economic point of view, even the cows do not supply milk, still, they should be protected.

Bali-mardana: Hm. Just to protect them.

Prabhupāda: Because that stool and urine is also useful. Cow is so important. They'll eat and they'll pass stool and urine. That is also important. If they supply milk, it is well, very good. Otherwise the stool and urine is also important. From that point of view we should give protection.

-Evening Darśana February 25, 1977, Māyāpura

All Vedic knowledge is infallible, and Hindus accept Vedic knowledge to be complete and infallible. For example, cow dung is the stool of an animal, and according to smṛti, or Vedic injunction, if one touches the stool of an animal he has to take a bath to purify himself. But in the Vedic scriptures cow dung is considered to be a purifying agent. One might consider this to be contradictory, but it is accepted because it is Vedic injunction, and indeed by accepting this, one will not commit a mistake; subsequently it has been proved by modern science that cow dung contains all antiseptic properties. So Vedic knowledge is complete because it is above all doubts and mistakes, and Bhagavad-gītā is the essence of all Vedic knowledge.

-*Bhagavad-gītā Introduction*

Now, practically, in India they accept it, and it has been found by chemical examination that the cow dung contains all antiseptic properties. That is a fact. One Dr. Goshal, he analyzed in his laboratory, "Why this Vedic injunction is the stool of cow or cow dung is pure?" So he analyzed, and he found it that the stool of cow, cow dung, is full of antiseptic properties.

-*Lectures Śrīmad-Bhāgavatam 7.9.10 July 9, 1968 Montreal*

TRANSLATION

The land became a person and collected all the drugs and herbs needed for installing the Deity. The cows delivered five products, namely milk, yogurt, ghee, urine and cow dung, and spring personified collected everything produced in spring, during the months of Caitra and Vaiśākha [April and May].

PURPORT

Pañca-gavya, the five products received from the cow, namely milk, yogurt, ghee, cow dung and cow urine, are required in all ritualistic ceremonies performed according to the Vedic directions. Cow urine and cow dung are uncontaminated, and since even the urine and dung of a cow are important,

we can just imagine how important this animal is for human civilization. Therefore the Supreme Personality of Godhead, Kṛṣṇa, directly advocates go-rakṣya, the protection of cows.

-*Śrīmad-Bhāgavatam 8.8.11*

But in the Vedic scriptures the cow dung is stated as pure. Rather, impure place or impure things are purified by touch of the cow dung. Now if one argues how it is that in one place it is said that the stool of the animal is impure and another place it is said that the cow dung which is also the stool of an animal, it is pure, so it is contradictory. But actually, it may appear to be contradictory, but because it is Vedic injunction, therefore for our practical purposes we accept it. And by that acceptance we are not committing mistake. It has been found by modern chemists, modern science... One Dr. Lal Mohan Gosal, he has very minutely analyzed the cow dung and he has found that cow dung is a composition of all antiseptic properties.

-*Lectures Bhagavad-gītā February 19, 1966 New York*

Prabhupāda: It was introduced by Dr. Bose.

Dr. Patel: Bose, yes.

Prabhupāda: He introduced so many Indian drugs in the...

Dr. Patel: They have in Bengal this Standard Pharmaceuticals of Bengal, been able to isolate penicillin from cow dung, and they have a big plant in Calcutta producing penicillin from cow dung. It's stated, you know, how cow dung was considered sacred. Perhaps we did not know that, but by experience.

Prabhupāda: Before this, one Monmohan Gosh, Dr. Monmohan Gosh, he was pathologist in medical college. He proved the antiseptic properties of gobara. He was Dr. Gosh's friend. So he was working in his laboratory also. I know. Long ago.

Dr. Patel: And in gomūtra, sir, there are so many hormones coming, and a big sample of hormones which can be resynthesized as human hormones. That is why gomūtra is being drunk.

Prabhupāda: Gomūtra is good medicine for liver disease. If you drink urine of...

Dr. Patel: Yes, it is proved scientifically so many hormones and by-products and hormones which can be resynthesized into human hormones, modern science.

Indian: (Hindi)

Dr. Patel: That's right, gomūtra is considered sacred by we people that we put a drop in the newly born child's mouth.

Prabhupāda: Pañca-gavya, gomūtra is one of the parts. Pañca-gavya.

Dr. Patel: Milk and honey. Five ingredients, gomūtra is one of the five things. Honey, milk...

Prabhupāda: No, that is pañca-amṛta.

Pañca-gavya a little different. Gobara, urine, milk, yogurt, and ghee. This is pañca-gavya, pertaining to the cow. And that honey, that is pañca-amṛta.

-Morning Walk August 14, 1976 Bombay

Prabhupāda: They have not been educated. Therefore, actually speaking, there is no real knowledge outside India. Mūḍha.

Dr. Sharma: Even the smallpox vaccination that was discovered by Edgar Jenner in 1796, it was really from the cow pox serum they discovered. The first vaccination he used on his own son. (indistinct) People who were living with the cows, they were not affected by smallpox, though the people did not have a cow in the house, they were affected the most. So it protects from cow pox, small pox.

Prabhupāda: Oh, yes. Cow protection protects us from so many infectious disease.

Dr. Sharma: Even the cows, they have habit to take the leaves along the banks of the river. The iodine content of the grass is so high. It has got iodine in that. So if you smear cow dung on the floor... It is said it is an obnoxious thing. There is tincture of iodine sold in the shops (indistinct). It is most unfortunate that we do not appreciate, the nature itself is giving us aids.

-Talk with Svarūpa Dāmodara April 18, 1977, Bombay

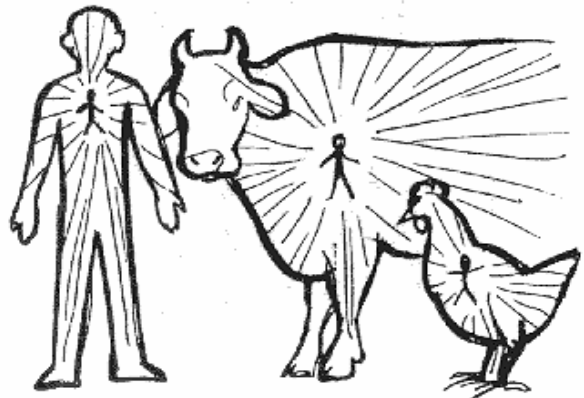
DRAFT OF ADDITIONS TO MEMORANDUM OF ASSOCIATION FOR CALCUTTA REGISTRATION 5B

There shall be a Governing Body Commission whose purpose is to act as the instrument for the execution of the will of the Founder-Ācārya His Divine Grace A. C. Bhaktivedanta Swami Prabhupāda. The GBC members will be initially selected by His Divine Grace Śrīla Prabhupāda . It will oversee all operations and management of ISKCON, as it receives direction from Śrīla Prabhupāda, and Śrīla Prabhupāda has the final approval in all matters.

(n) To promote Vedic research work in the area of agriculture and animal husbandry, and alternative energy sources according to the historic Vedic texts for the sound and healthy development of body, mind, and soul; and to promote and distribute this research work.

-Letter to: Unknown Bombay November 17, 1974

There are so many facilities afforded by cow protection, but people have forgotten these arts. The importance of protecting cows is therefore stressed by Kṛṣṇa in Bhagavad-gītā (kṛṣi-gorakṣya-vāṇijyaṁ vaiśya-karma svabhāvajam [Bg. 18.44]). Even now in the Indian villages surrounding Vṛndāvana, the villagers live happily simply by giving protection to the cow. They keep cow dung very carefully and dry it to use as fuel. They keep a sufficient stock of grains, and because of giving protection to the cows, they have sufficient milk and milk products to



solve all economic problems. Simply by giving protection to the cow, the villagers live so peacefully. Even the urine and stool of cows have medicinal value.

-Śrīmad-Bhāgavatam 10.6.19 Purport

OX POWER

Highlights: *“The cow is meant to deliver milk, and the bull is meant to produce grains....And unless our men are trained up, Kṛṣṇa conscious, they will*

miracle of aggregate food values.

-Śrīmad-Bhāgavatam 1.16.18 Purport

Prabhupāda: I have seen. I have seen in England, I have seen in America, they simply raise the cows for being killed in future. You see? But the duty of the agriculturist, they should give very, very protection to the cows especially.

C. Hennis: This doesn't apply to bulls and bullocks and male animals generally does it?

Prabhupāda: No, bullocks also. Cow means bullock also.



Gitā and Vraja plowing

think “What is the use of taking care of the plows (cows)? Better go to the city, earn money and eat them.”.....The oxen will solve the problem of transport.He is brāhmaṇa, but he’s teaching how to take care of the cows and ploughing.”

The bull is the emblem of the moral principle, and the cow is the representative of the earth. When the bull and the cow are in a joyful mood, it is to be understood that the people of the world are also in a joyful mood. The reason is that the bull helps production of grains in the agricultural field, and the cow delivers milk, the

C. Hennis: Oh, is it?

Prabhupāda: Yes. Cow is feminine, bullock is the masculine, that’s all.

C. Hennis: So it’s the whole bovine race that’s protected, and not just the cows themselves, not just the female cows?

Prabhupāda: No, both the male and female. The bullocks are used for so many other purposes. They can till the field. They can be used for transportation, so many other purposes. Or even we are spreading Kṛṣṇa consciousness. During Kṛṣṇa’s time... Kṛṣṇa was born of a very well-to-do father, but at that time the bullocks were engaged for transportation from one village

to another, one village to another. Or for carrying goods.

-Room Conversation May 31, 1974, Geneva

You have seen the picture, Kṛṣṇa, Vṛndāvana picture, Kṛṣṇa's father transferring Kṛṣṇa. They were going on bullock carts, no motorcar. You have seen the picture. So formerly, transport was bullock carts. The cows and the bulls, the bulls were employed for agricultural purpose, for drawing the carts. So there was no necessity of motorcar. Now you have got motor, motor-tractor. You don't want the bullocks. Therefore kill them. How you can utilize them? Therefore you must have slaughterhouse to kill them. And as soon as you kill them, then you have to eat them. So this is the, I mean to say, entanglement. If you kill, then you become responsible for being killed. -*Śrīmad-Bhāgavatam* 7.5.22-34 Lord Nṛsiṃhadeva's Appearance Day Los Angeles, May 27, 1972

Jayapatāka: All of our cows are half and half, but the Western cows give the more milk.

Prabhupāda: So they have no ground to graze?

Jayapatāka: They go out every day and graze.

Tamāla Kṛṣṇa: Prabhupāda, you want to see these?

Jayapatāka: These are the bullocks on the left and the babies on the right.

Prabhupāda: They can be used for plowing?

Jayapatāka: Yes, when they get big. Some are cows and some are men, bulls. These are the new ones. In the government, they kill all the male calves and only keep the female. But we will use for the fields.

Prabhupāda: Yes.

-Morning Walk January 17, 1976, Māyāpur

Mahāmśa: Even rice.

Prabhupāda: Even... Oh, yes. Very, very practic... We want some (indistinct) food. Annād bhavanti bhūtāni. Bhūtāni means both animal and men. Animals should be well fed. Not only human being, but animal also. Otherwise, how

he'll work? Don't use tractor, use this bulls.

Otherwise there will be a problem, how to engage the bulls.

Devotee: Yes.

Prabhupāda: Engage them for transport, for plowing.

Mahāmśa: We should not get a tractor?

Prabhupāda: No. When you have got bulls, why should you get...?

Mahāmśa: We have only 8 pairs of bulls.

Prabhupāda: Yes, and other bulls have been eaten up. Now we stop that eating. Now if you need, you can purchase tractor. But as far as possible try to avoid, and engage the bulls. Otherwise, it will be problems. The Europeans have invented tractors, and the bull is a problem. Therefore they must be sent to the slaughterhouse. So we can not create that problem. How the bull should be utilized? They should be used for transport, and plowing.

-Room Conversation December 10, 1976, Hyderabad

All these bābājīs should be employed, "Chant Hare Kṛṣṇa and draw plough." Then it will be nice.

-Morning Walk March 15, 1974, Vṛndāvana

Viṣṇujana: For example, in New Vrindaban we have brāhmaṇas that are very expert at tilling the soil and taking care of cows.

Prabhupāda: Yes.

Viṣṇujana: And they could travel around and teach others how to do that as well. Prabhupāda: Yes. That's right. He is brāhmaṇa, but he's teaching how to take care of the cows and ploughing.

-Morning Walk "Varnasrama College" March 14, 1976, Vṛndāvana

And oxen can be used for driving carts and go preaching village to village. What is the question of killing them? Here in India our Lokanātha Mahārāja has successfully organized such a program and it is a great success. He has traveled

all over India and everywhere they distribute books, prasādam and perform kirtana. Each night they stop at a different village. We can introduce many millions of such carts all over the world.

-Letter Śubhaviḷāsa March 3, 1977

And the country oil-mill (consisting of a bull walking in circle round two big grinding stones, attached with yoke) grinds the oil seeds into oil.

-Letter Hayagrīva June 14, 1968

OX POWER VS TRACTORS

Submitted by Tab Mattler (Tāraka dās) for
ISCOWP News Volume 11 Issue 2

Don't use tractor, use this bulls. Otherwise there will be a problem, how to engage the bulls....

Interview with Tejīyas dās: by Paramānanda dās in Māyāpur , 1982 (This interview appeared in the "Iskcon Farm Newsletter", Vol.2 No.1

Many times in Hyderabad Prabhupāda talked about the tractor. He said the tractor has spoiled the whole society. He said, "Because there is tractor then there is no use for the bull." So many times he discussed. And he said, "Then what are you going to do, what to do, what to do. And then you will cut their throat." He said, "You will see. It is sure to come. If you do not use the bulls for plowing, one day you will say, let us cut their throats." And it is a fact. People will get them and then they will send them away and sell them, kick them out. It has to happen on our farms if we don't use the bulls for plowing. What will you do when you have hundreds and hundreds of animals and you are getting more and more animals?

Ref. VedaBase, Letter to: Balavanta -- Bombay 3 January, 1977

So, take more land and engage them in agriculture, plowing by the bulls instead of

tractor. Bulls can be engaged in plowing and transporting. Nice bullock carts village to village for preaching. Make the farm the center and go ten miles this side, ten miles that side, ten miles this side, etc., with four bullock carts. Sell books and preach and live peacefully on the farm. People used to engage the bull for this purpose. So there was no problem which way to utilize them. First of all this artificial way should be stopped, and the bulls should be engaged in plowing and transporting, and smashing the grains. To avoid machinery, petrol, machine oil, by nature's way.

Ref. VedaBase, Morning Walk, February 12, 1976, Māyāpur

Hṛdayānanda: They think this is progress, everyone can lie down and the machines will work.

Prabhupāda: Yes, machine, inventing machine means one machine can work for fifty men. The banks are using this, what is that, computer?

Hṛdayānanda: Yes, everyone is using computers.

Prabhupāda: To save money. Machine means unemployment for many. Tractor, they're using, they're unemployment for bulls and plowmen and then the bulls have to be killed. This is going on. Unemployment, then kill them. Vietnam, send all the men to fight and kill them. As soon as there is overpopulation, they declare war so that people may be killed.

Ref. VedaBase, Morning Walk, February 3, 1976, Māyāpur

Prabhupāda: Bull will not supply milk, so there is no use. It must be killed. Otherwise they are ferocious animal. You have made this law. The cows may be given some time to be killed, but the bulls should be killed immediately. This is their law.

Hari-śauri: Nor do the farmers actually want to keep them anyway.

Prabhupāda: No.

Hari-śauri: They are useless animals.

Prabhupāda: Simply expensive. But here in India they know how to utilize bulls -- for transportation, for plowing and so many other things.

Tamāla Kṛṣṇa: Such a shortage of fuel, but there is no shortage of fuel with a bull.

Prabhupāda: No, rather, it will supply you gobar, fuel. Whatever he will eat, he will give you fuel.

Tamāla Kṛṣṇa: In return.

Prabhupāda: In return.

Jayapatāka: But now the government is trying to teach the people that they should buy tractors and kill the calves.

Prabhupāda: Huh?

Jayapatāka: They want to have..., make tractors popular and then...

Prabhupāda: Kill the bulls. They were criticizing us because in our goshalla we maintain the male calves.

Prabhupāda: Huh? What is that economical progressing? So that means busy fool. Fool, they do not know how to satisfy the economic problem. That is recommended in the Bhagavadgītā, Annād bhavanti bhūtāni: [Bg. 3.14] You grow food grains. Then all economic question... But why you are not producing food grains? Why you are producing iron stools and instruments and motor and tire and collecting petrol far away from Arabia? That is... Kṛṣṇa never says that "You do all this nonsense." He said, "Grow food grains." Why don't you do that? That means fools. After all, you have to eat. So you are not busy in growing your food, but you are busy in producing tire tubes, motor cars, stools and instruments. Then how you will get your food? Where is your economic? First economic is, first necessity, you must eat.

Puṣṭa Kṛṣṇa: But with the tire tubes and nuts and bolts they can make a tractor. And the tractor can help produce food, they think, much faster.

Prabhupāda: No, that is waste of energy. Because

you are eating the bulls, therefore you require a tractor. Otherwise you don't kill the bulls. This animal will do the business of tractor.

Devotee (4): It will work.

Prabhupāda: But you want to eat them, so you must find out...

Indian man (1): Some other means.

Prabhupāda: Replacement. That's it.

Ref. VedaBase, New Orleans, August 1, 1975 Walk around NEW TALAVANA FARM

Nityānanda: We can go this way, here. This is all our machinery here.

Prabhupāda: Hm. So already some machine idle. You had to spend so much, but they are lying idle. That is not good. That is the defect of machine. If you cannot ply it, then it is dead loss.

Brahmānanda: If you cannot what?

Prabhupāda: It is dead loss if you cannot work with the machine.

Brahmānanda: Yes, yes.

Prabhupāda: But when you go to purchase you have to pay lots of money. Now they will be rusty with water and gradually useless. How much money you have invested?

Nityānanda: Thousands.

Prabhupāda: Just see. This is the defect of machine. If you cannot utilize it, then it is dead loss.

Brahmānanda: Where are the tractors kept?

Nityānanda: One's at the house, and one's in the field.

Prabhupāda: So they have to be utilized or rejected, these machines?

Nityānanda: Yes, they all have a purpose. We use them from time to time.

Prabhupāda: But now they are kept open and the...

Nityānanda: Well, we are building a shed to keep them out of the rain.

Prabhupāda: In the meantime it will be finished.

By the time you finish your shed, it is finished.

Śāstre śāstre dal phariyaga.(?) "Some women

were dressing to go to a fair, and when they were dressed, the fair was finished.” (laughter) Utilize them. Otherwise, while they are in working order, sell them. Don’t keep in that way, neglected way. Either utilize it or sell it at any cost. Otherwise they are useless.

Devotee: Śrīla Prabhupāda? A materialist or someone who wouldn't know, he may say that when the bull is not plowing, all he is doing is eating. You have to pay money to feed him grain or to grow grain to feed the bull.

Prabhupāda: They will grow, and they will eat. Rather, they will help you for your eating. The father also eats, but he maintains the family. Therefore the bull is considered as father and the cow as mother. Mother gives milk, and the bull grows food grains for man. Therefore Caitanya Mahāprabhu first challenged Kazi that "What is your religion, that you eat your father and mother?" Both the bulls and the cows are important because the bull will produce food grain and the cow will supply milk. They should be utilized properly. That is human intelligence. This is filling up with paddy or...? No?

Nityānanda: With food for the cows. This one has forage or fodder, and that one has grain.

Prabhupāda: So everything is for the animals. Nothing for the man?

Nityānanda: The cows give us milk.

Prabhupāda: That's all? And you are not growing any food grains? Why?

Nityānanda: Er... We've been trying to establish self-sufficient cow protection program first, to grow our own food for the cows.

Brahmānanda: There is no land available for growing rice or wheat?

Nityānanda: Yes, but the number of devotees we have to do it...

Brahmānanda: But you have so many machines.

Prabhupāda: All these machines require oiling and keeping nicely. Otherwise it will spoil.

Nityānanda: Down the road we have fifteen acres of sorghum, grain for the cows.

Prabhupāda: And everything for the cows, but what for the man? They will give everything for cows because they will eat cows, other farmers. But you utilize the animals for growing your food. Brahmānanda: The idea is we should maintain the animals, but then the animals should provide foodstuffs for the men.

Prabhupāda: Yes.

Brahmānanda: And that way there is cooperation.

Prabhupāda: Yes. The animals, bulls, should have helped in spite of that... instead of that machine. Then it is properly utilized. And others, they cannot utilize these animals. Therefore, what they will do? Naturally they will send to slaughterhouse. But we are not going to send to the slaughterhouse. Then what we will do? They must be utilized. Otherwise simply for growing food that the cows and bulls we engage ourself? You are already feeling burden because there are so many bull calves. You were asking me, “What we shall do with so many bulls?”

Nityānanda: Well, when they grow up we will train them as oxen.

Prabhupāda: No, what the oxen will do?

Nityānanda: Plow the fields.

Prabhupāda: Yes. That is wanted. Transport, plowing fields. That is wanted. And unless our men are trained up, Kṛṣṇa conscious, they will think, “What is the use of taking care of the plows (cows)? Better go to the city, earn money and eat them.”

Ref. VedaBase, Morning Walk, Rome, May 27, 1974

Bhagavān: Now, recently, in the last war in the Middle East, Saudi Arabians raised the price of the oil over double now, I think, as a pressure to the western countries to do things in their favor. Now they realized that the market for oil is in such great demand that they don't have to lower the price after the war, but they are going to keep the price. And actually the price is still increasing. So this is causing inflation.

Prabhupāda: So this problem will be solved as soon as we are localized. Petrol is required for transport, but if you are localized, there is no question of transport. You don't require petrol. Suppose in New Vrindaban, we stay, we don't go anywhere. Then where is the need of petrol?

Bhagavān: Petrol they also use for heating. And electricity.

Prabhupāda: No, heating. Heating we can do by wood. By nature.

Dhanañjaya: I remember, Śrīla Prabhupāda, you were saying that all we require is some oxen, and the oxen can carry.

Prabhupāda: Yes. The oxen will solve the problem of transport. That bullock cart. Just like Kṛṣṇa, when He was transferred from Gokula to Nandagrāma, so they took all the bullock carts, and within a few hours they transported them, the whole thing, their luggage, family member, everything.

Bhagavān: How far can a bullock cart travel in one day?

Prabhupāda: At least ten miles, very easily, very easily. And maximum he can travel fifteen miles, twenty miles. But when we are localized, we don't require to go beyond ten miles, five miles. Because we have created a rubbish civilization, therefore one is required to go fifty miles for earning bread, hundred miles, hanging.

Dhanañjaya: Like in Los Angeles.

Prabhupāda: Why Los Angeles? Everywhere. In New York they are coming from hundred miles.

From the other side of the island. First ferry steamer, then bus, then so on, so on. Three hours, four hours, they spend for transport.

Satsvarūpa: Is this an ideal solution or a practical one?

Prabhupāda: This is practical.

Satsvarūpa: Because sometimes we say that actually we cannot change the course of the...

Prabhupāda: No, no. Our society will be ideal by practical application.

Satsvarūpa: If we stopped all the transportation industry, there would be huge unemployment. It would be a great...

Prabhupāda: No, no, we are not going to stop employment. We live like this. You see. If you like, you live like us.

Bhagavān: Example.

Prabhupāda: Example.

Satsvarūpa: Not that we dictate to the... Not that we are going to force everyone.

Prabhupāda: No, we are not going to force anyone. "Our mode of living is like this. If you like you can adopt." Just like we chant Hare Kṛṣṇa mantra. So we are not forcing anyone that "You also, you must chant." No. We live like this.

Dhanañjaya: So in fact, Śrīla Prabhupāda, we should start using bullock carts.

Prabhupāda: Yes. No, first of all you start the community project, as we have already started in New Vrindaban. Make this perfect.

LAND

Highlights: Protection and grazing ground for the cows are among the essential needs for society and the welfare of people in general...For the time being, if you actually want to develop such ideal āśrama, we must have sufficient land, and all other things will gradually grow...We must have sufficient pasturing ground to feed the animals all round. I want the world to see by our example that life can be lived naturally, peacefully if one is self sufficient with land, some cows and chanting Hare Kṛṣṇa. That is the idea of purchasing land.

Nanda Mahārāja was a big protector of cows, and Lord Śrī Kṛṣṇa, as the most beloved son of Nanda Mahārāja, used to tend His father's animals in the neighboring forest.

-Light of the Bhāgavata Preface

Protection and grazing ground for the cows are among the essential needs for society and the welfare of people in general.

-Light of the Bhāgavata 27

We must be able to grow our own fodder for the cows. We don't want to have to purchase food for the cows outside from some other party. That will run into a great expense. Cow protection is the business of the vaiśyas and along with our preaching, this is the most important work. We must have a good section of Brāhmaṇas in our society and we must also have a good group of vaiśya who can grow grains and tend cows, and thus supply the society with food-grains and milk products from the cow like ghee, curd, cream, etc. -*Letter to: Hasyakari Honolulu May 26, 1975*

...they are keeping, but it is not possible to give them food by purchasing. They are taking food from the street. Similarly, the poor man keep a cow. It is not possible to purchase food for the cows. So maintain in this way, so, by natural food. And in Germany I have seen. They are not given extra food. They are living by pasturing ground. That should be arranged. They should get food from the ground, not that we have to purchase food for them. Then you cannot maintain. -*Morning Walk April 23, 1975, Vṛndāvana*

For the time being, if you actually want to develop such ideal āśrama, we must have sufficient land, and all other things will gradually grow. For raising crops from the land, how many men will be required--that we must estimate and for herding the cows and feeding them.

We must have sufficient pasturing ground to feed the animals all round. We have to maintain the animals throughout their life. We must not make any program for selling them to the slaughterhouses. That is the way of cow protection. Krishna by His practical example taught us to give all protection to the cows and that should be the main business of New Vrindaban. Vrindaban is also known as Gokula. Go means cows, and kula means congregation. Therefore the special feature of New Vrindaban will be cow protection, and by doing so, we shall not be loser. -*Letter Hayagrīva June 14, 1968*

Generally the calves and cows are pastured separately. The elderly men take care of the cows, and the small children see to the calves.

-*Śrīmad-Bhāgavatam 10.13.30 Purport*

Those who belong to the third level of human society, namely the mercantile people, must keep land for producing food grains and giving protection to cows. This is the injunction of Bhagavad-gītā.

-*Śrīmad-Bhāgavatam SB 9.15.25 Purport*

Everyone should be trained as Vaiṣṇava. At the same time, he should work in different position for management. So if our men are not prepared—Tamāla Kṛṣṇa Mahārāja—for doing the plowing work, then what is the use of purchasing land?

Tamāla Kṛṣṇa: They are not prepared.

Prabhupāda: Eh?

Tamāla Kṛṣṇa: They are not prepared.

Prabhupāda: Then? You have to engage laborer and spend two hundred rupees per head at least, including salary and food, and the production is nil. In this way, there must be ten thousand, twenty thousand expenditure. Am I right or not, that “You bring money some way from anywhere, and let us spend lavishly?” What kind of management this is?

-*Morning Walk March 12, 1974 Vrindaban*

Yes, the farm plan in New Orleans is fine. But one thing is if we get land we must first be sure we will be able to fully utilize it, otherwise, if we cannot use it what is the use? I want the world to see by our example that life can be lived naturally, peacefully if one is self sufficient with land, some cows and chanting Hare Krishna. That is the idea of purchasing land. It is not necessary that every temple have a farm, but as many as can be efficiently managed locally is all right. Let them see our centers are self sufficient.

-*Letter Jagadīśa June 18, 1974*

The whole idea is that people residing in New Vrindaban may not have to search out work outside. Arrangements should be such that the residents should be self-satisfied. That will make an ideal āśrama. I do not know these ideals can be given practical shape, but I think like that; that people may be happy in any place with land and cow without endeavoring for so-called amenities of modern life...which simply increase anxieties for maintenance and proper equipment. The less we are anxious for maintaining our body and soul together, the more we become favorable for advancing in Krishna Consciousness.

-Letter Hayagrīva June 14, 1968

The land became a person and collected all the drugs and herbs needed for installing the Deity.

-Śrīmad-Bhāgavatam 8.8.11 Translation

So the mahī, the land, the land is there. Just like in America or in Australia there are so much land. In Africa, so much land lying vacant. But they do not know that this land can produce all the needs of life. Sarva-kāma-dughā mahī. Sarva-kāma, whatever you want. Actually we are getting...

Just like this Western civilization has created so many slaughterhouse for eating purposes. But wherefrom they are getting? From mahī, from the land. If there is no pasturing ground, grazing ground, wherefrom they will get the cows and the bulls? That is also... Because there is grass on the land and the cows and bulls eat them, therefore they grow. Then you cut their throat, civilized man, and eat, you rascal civilized man. But you are getting from the mahī, from the land. Without land, you cannot. Similarly, instead of cutting the throat of the cows, you can grow your food.

Why you are cutting the throat of the cows?
After all, you have to get from the mahī, from the land. So as they are, the animal which you

are eating, they are getting their eatables from the land. Why don't you get your eatables from the land? Therefore it is said, sarva-kāma-dughā mahī. You can get all the necessities of your life from land. So dughā means produce. You can produce your food. Some land should be producing the foodstuff for the animals, and some land should be used for the production of your foodstuffs, grains, fruits, flowers, and take milk. Why should you kill these innocent animals? -Śrīmad-Bhāgavatam Lecture 1.10.4

Prabhupāda: Yes. (break) ...encouraging in our society to take to agriculture to support this center. I am purchasing land in Vṛndāvana and Māyāpura to become self-sufficient. Whatever production you make, you be satisfied. Little vegetable, little grain and little milk. That is sufficient.

Yogeśvara: In the Vedic culture, was the land divided, in the sense that some people would receive land free or...?

Bhagavān: This is nice here, this ground.

Yogeśvara: The land in the Vedic culture, some of it was...?

Prabhupāda: Land belongs to the king, and you take land for cultivation, and you pay 25% tax to the king. That's all. All taxes. If you don't produce, then don't pay tax.

Yogeśvara: Oh, it wasn't forced that you had to pay so much.

Prabhupāda: No.

Ātreya Ṛṣi: You pay 25% of what you have produced.

Prabhupāda: What you have produced, that's all. Very simple thing. Everyone was engaged producing. There was no necessity.

-Morning Walk at Villa Borghese Rome
May 25, 1974

So it is my choice, to utilize this body as I like, and I also reap the result. The same example: You are given a field, a piece of land. You can grow twice, thrice in a year very nice foodstuff, sometimes pulses, sometimes paddy, sometimes

the mustard seed. Any land... In India, we have seen that a cultivator produces three, four kind of food grains in a year. That is the system... That is the system that in India every man is producing his food grains independently. Now it is stopped. Formerly, all these men, they used to produce their food grain. So they used to work for three months in a year, and they could stock the whole year's eatable food grains. Life was very simple. After all, you require to eat. So this Vedic civilization was that keep some land and keep some cows. Then your whole economic question is solved.

Now, in this country, Geneva, I heard there is... I am tasting the milk, first-class milk. I think the world's best milk. Unless one has got his own cows, one cannot get such nice milk. But I hear also that because there is excess production of milk, they have decided to kill twenty-thousand cows.

Devotee: Last year, they decided to do it, but apparently they didn't do it. They wanted to do it.

Prabhupāda: Just see how much foolish proposal it is. So for want of God consciousness, this mischievous intelligence can be found. The whole economic question can be solved. If you have got excess, then you can trade, you can send to some place where there is scarcity. But every man should produce his own food. That is Vedic culture. You get a piece of land and produce your family's foodstuff.

But they are... What they are doing? In Australia, in Africa, they have got enough land, but the government... Maybe they have no sufficient men to utilize the land, but they won't allow any outsider to go there who can produce. I have seen in Africa. Very, very large tract of land was lying vacant, nobody is producing any food. They are producing coffee. That is not the local men. The Britishers who have gone there, They are producing coffee, tea, and keeping some

cows for slaughtering. This is going on. In Australia, also, I have seen.

...I don't find many churches here in Geneva. They don't like to go to church here?

Guru Gaurāṅga: They say they do.

Prabhupāda: ...But don't find many churches here, so this is not very good sign. People should eat sumptuously, not overeating. Overeating is bad. Not undereating. Yuktāhāra-vihārasya yogo bhavati siddhaye. Yuktāhāra, as much as you require, you must eat. Yajñārthe... Annād bhavanti bhūtāni. Either human being or an animal, they must get sufficient food, and that means anna, food grains. So I have studied it very thoroughly. If people produce food grain in all the lands available all over the world, they can feed ten times population than it is at present. Kṛṣṇa has made such arrangement.

In the [Īśopaniṣad, Invocation], it is said, pūrṇam adaḥ pūrṇam idaṁ pūrṇāt pūrṇam udacyate. In the creation of Kṛṣṇa, there cannot be any scarcity. Everything is sufficiently there. Pūrṇam, it is complete, perfectly made, either this planet, that planet. Everywhere, the living entities are there, and Kṛṣṇa has made provision for every one of them. There is no question of scarcity. But people are not obeying the orders of Kṛṣṇa or the authorities, that "You produce..." Annād bhavanti bhūtāni. Even in Bible, it is said, "Thou shalt not kill." They are not producing food grains, and they are killing the animals and eating.

How they will be happy? It is not possible. Most sinful activities. You produce your food. The bull will help you. And the cows will supply you milk. They are considered to be father and mother. Just like father earns money for feeding the children, similarly, the bulls help producing, plowing, producing food grains, and the cow gives milk, mother. And what is this civilization,

killing father and mother? This is not good civilization. It will not stay. There will be catastrophe, waiting. Many times it has happened, and it will happen because transgressing the law of nature, or laws of God, is most sinful. That is sinful. Just like you become criminal by transgressing the law of state, similarly, when you transgress the law of God, then you are sinful. So this example is given: *idaṁ śārīraṁ kṣetram*. That means to own a certain piece of land is the basic civilization. Everyone must have a portion of land to produce his food. There will be no economic problem.

And we have seen even in our childhood that poor men, the laborer class, servant, they came from village in the town. We were residents of town, Calcutta, The servants class, they would come... Everywhere, not in Calcutta, everywhere. The villagers would come, and the small salary. Even in our young days, we were paying salaries to the servants, twelve rupees, fourteen rupees, without any food. And still they would save at least ten to twelve rupees out of that. And this money, the servant would send to his wife at home, and as soon as there is two hundred rupees, he'll purchase a piece of land. And in this way, when he has got sufficient land for producing food for the whole family, then he would no more come to city for working. We have seen it.

That means as soon as one has a land sufficient to produce, he is safe. His food problem—that is the real problem—is solved. So people are not being trained up to... In America, I have seen. Now the farmers, the father is working on the farm, and the sons, they do not come. They live in the city. This is the tendency all over the world. They are not producing food grains. Therefore there is scarcity. There is scarcity of...

So anyway, the whole world situation is degrading, that people are not producing their own food. This is the problem, real problem.

Kṣetra-kṣetra-jña. This example is given. As every man must possess a piece of land... Therefore this... Because it is very common thing, this example has been given. *Kṣetra-kṣetra-jña*.

So as we till our land and gets foodstuff according to my labor, according to my intelligence... Food grains I can produce once twice, thrice, if I work hard. Generally, they work two times: three months, three months. And those who are very lazy, they work three months. But even working for three months, they can acquire foodstuffs for the whole year. That I have seen. So similarly, as we get some land and work for ourself, similarly, this body is also like that land. And I am... This "I," the soul, I can reap good result or bad result as I work with this body. This is very similar.

-Geneva June 6, 1974 *Bhagavad Gītā* Lecture 13.35

INDEPENDENT FARM COMMUNITY DEVELOPMENT

Highlights: "*Cow protection is the business of the vaiśyas and along with our preaching, this is the most important work....Where there is agriculture there must be cows.....The whole idea is that we are Iskcon, a community to be independent from outside helpYou may call the gosala: ISKCON Gosala and Farm Project Trust. The trustees shall be; myself as chairman, ...Now we have to organize carefully.*"

They have been advised to turn San Francisco gradually into New Jagannātha Purī, and I have advised Kīrtanānanda and yourself to convert West Virginia into New Vrindaban. I understand the spot is very beautiful, and the hills may be renamed as New Govardhana. And if there are lakes, they can be renamed as Śyāmakunda and Rādhākunḍa. Vrindaban does not require to be modernized because Krishna's Vrindaban is a

transcendental village. They completely depend on nature's beauty and nature's protection. The community in which Krishna preferred to belong was Vaiśya community, because Nanda Mahārāja happened to be a Vaiśya king, or landholder, and his main business was cow protection. It is understood that he had 900,000 cows and Krishna and Balarāma used to take charge of them, along with His many cowherd boy friends, and every day, in the morning He used to go out with His friends and cows into the pasturing grounds. So, if you seriously want to convert this new spot as New Vrindaban, I shall advise you not to make it very much modernized. But as you are American boys, you must make it just suitable to your minimum needs. Not to make it too much luxurious as generally Europeans and Americans are accustomed. Better to live there without modern amenities. But to live a natural healthy life for executing Krishna Consciousness. It may be an ideal village where the residents will have plain living and high thinking. For plain living we must have sufficient land for raising crops and pasturing grounds for the cows. If there is sufficient grains and production of milk, then the whole economic problem is solved. You do not require any machines, cinema, hotels, slaughterhouses, brothels, nightclubs--all these modern amenities. People in the spell of *mayā* are trying to squeeze out gross pleasure from the senses, which is not possible to derive to our heart's content. Therefore we are confused and baffled in our attempt to eschew eternal pleasure from gross matter. Actually, joyful life is on the spiritual platform, therefore we should try to save our valuable time from material activities and engage them for Krishna Consciousness. But at the same time, because we have to keep our body and soul together to execute our mission, we must have sufficient (not extravagant) food to eat, and that will be supplied by grains, fruits, and milk. So if you can develop this place to that ideal life and the residents become ideal Krishna Conscious men, in that part of your country, I think not

only many philosophically minded people will be attracted, but they will be benefited also.

...For the time being, if you actually want to develop such ideal āśrama, we must have sufficient land, and all other things will gradually grow. For raising crops from the land, how many men will be required--that we must estimate and for herding the cows and feeding them. We must have sufficient pasturing ground to feed the animals all round. We have to maintain the animals throughout their life. We must not make any program for selling them to the slaughterhouses. That is the way of cow protection. Krishna by His practical example taught us to give all protection to the cows and that should be the main business of New Vrindaban. Vrindaban is also known as Gokula. Go means cows, and kula means congregation. Therefore the special feature of New Vrindaban will be cow protection, and by doing so, we shall not be loser. In India of course, a cow is protected and the cowherdsmen they derive sufficient profit by such protection. Cow dung is used as fuel. Cow dung dried in the sunshine kept in stock for utilizing them as fuel in the villages. They get wheat and other cereals produced from the field. There is milk and vegetables and the fuel is cow dung, and thus, they are self-independent in every village. There are hand weavers for the cloth. And the country oil-mill (consisting of a bull walking in circle round two big grinding stones, attached with yoke) grinds the oil seeds into oil. The whole idea is that people residing in New Vrindaban may not have to search out work outside. Arrangements should be such that the residents should be self-satisfied. That will make an ideal āśrama. I do not know these ideals can be given practical shape, but I think like that; that people may be happy in any place with land and cow without endeavoring for so-called amenities of modern life--which simply increase anxieties for maintenance and proper equipment. The less we are anxious for maintaining our body and soul

together, the more we become favorable for advancing in Krishna Consciousness.

-Letter to: Hayagrīva June 14, 1968

You say we must have a gosala trust, that is our real purpose. kṛṣi-goraṅkṣya-vāṅijyaṁ vaiśya-karma svabhāva-jam, [Bg 18.44]. Where there is agriculture there must be cows. That is our mission: Cow protection and agriculture and if there is excess, trade. This is a no-profit scheme. For the agriculture we want to produce our own food and we want to keep cows for our own milk. The whole idea is that we are Iskcon, a community to be independent from outside help. This farm project is especially for the devotees to grow their own food. Cotton also, to make their own clothes. And keeping cows for milk and fatty products.

Our mission is to protect our devotees from unnecessary heavy work to save time for advancing in Kṛṣṇa consciousness. This is our mission. So there is no question of profit, but if easily there are surplus products, then we can think of trading. Otherwise we have no such intention. We want a temple, a gosala and agriculture. A community project as in Europe and America. We are making similar attempts in India in several places. Immediately I'm going to Hyderabad to organize the farm project there. We have 600 acres. We have the permission from the government. There is no question of ceiling.

You may call the gosala: ISKCON Gosala and Farm Project Trust. The trustees shall be; myself as chairman, Pranlal Bhogilal, yourself, Gopāla Kṛṣṇa, Mahāṁśa, Hamsadūta, Karatīya Mahadevia, Akṣayānanda, and the life member you have mentioned in your letter (You haven't mentioned his name, but you say that he is an actor and has a farm of his own).

-Letter to: Yaśomatīmandana November 28, 1976

The basic principle of our life in Vrindaban will be cow keeping. If we can keep cows sufficiently and grow our necessary foodstuffs, then we shall show a new way of life to your countrymen . . . completely spiritual life in healthy atmosphere in divine consciousness.

-Letter to: Satyabhāmā March 30, 1969

Our farm projects are an extremely important part of our movement. We must become self-sufficient by growing our own grains and producing our own milk, then there will be no question of poverty. So develop these farm communities as far as possible. They should be developed as an ideal society depending on natural products not industry. Industry has simply created godlessness, because they think they can manufacture everything that they need. Our Bhagavad-gītā philosophy explains that men and animals must have food in order to maintain their bodies. And the production of food is dependent on the rain and the rain of course is dependent on chanting Hare Kṛṣṇa. Therefore let everyone chant Hare Kṛṣṇa, eat nicely and keep their bodies fit and healthy. This is ideal life style. We do not condemn modern civilization but we don't like to get it at the cost of God Consciousness, that is suicide. Your farm in Pennsylvania sounds very nice. As far as Bali Mardan beng involved with the management he will have nothing to do with that. The two men you have appointed, Paramānanda and Devakīnandana Prabhuś, are both capable and experienced men from New Vṛndāvana and I am sure they will manage everything very nicely there. *-Letter to: Rūpānuga December 18, 1974*

Another thing, is that the grhasthas may be encouraged to do agriculture. In the Indian villages like in Vrindaban, they get enough ghee for their personal use, and sufficient excess to be sold to the merchants, who then also get some money. Cow protection means good food and good trade. So I can give you suggestions how to manage everything, but it is up to the GBC to

practically execute all these points.

-Letter to: Jayatīrtha January 22, 1976

Your proposal for establishing a Krishna Consciousness community on the land which you have is very good. Whenever we get some land available we should take the opportunity to develop it into an ideal community as envisioned for New Vrindaban. We can have a great many such communities all over the world so that people everywhere can see how by leading a pure and simple life of Krishna consciousness, all one's needs in life can be satisfied. Actually, the so-called civilization of the Kali yuga with its over industrialization, has not been able to give to man the happiness he is seeking. So as you say that your land is very suitable for cow protection and for Tulsi to grow, then Krishna is giving you the opportunity to develop this program. Protect some cows, grow crops, and if possible provide fresh milk and butter for the Temples near by. And the rest of the time chant Hare Krishna and read my books. In this way you can live very peacefully without any disturbances from anyone. *-Letter to: Von Paul Reed January 2, 1972*

Furthermore, I wish to be enlightened to know how much land the mandir possesses for cultivation because I wish the temple community to be self-sufficient by producing their own food grains. In foreign countries we are organizing our centres on this principle.

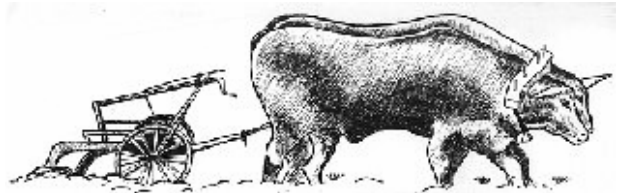
-Letter to: Sri Kashinath Mullick March 24, 1976

Regarding our farming scheme, it is almost settled that we shall get some land. Now we have to organize carefully. In this respect, I am counting upon your good help. On my return to India I wish to hold immediately one meeting of Krisans or agriculturist society. The idea is that the land is there and Krisans may be engaged to grow food both for men and for the animals, namely the cows. The cow should be maintained very healthy so that they can give sufficient good milk. The Krisans shall live comfortably in the

cottages. They should produce their food, their milk, and their cloth. Everything produced will be used by themselves. If there is any excess production then the question of trade will arise. That we shall see later on. All the products produced will belong to Krishna-Balarāma. Everyday at least thrice, all the Krisans meet in the local temple of Krishna-Balarāma, chant Hare Krishna Mahā-mantra, and take prasādam. In this way they should live peacefully locally without going outside for their livelihood. This is the general program.

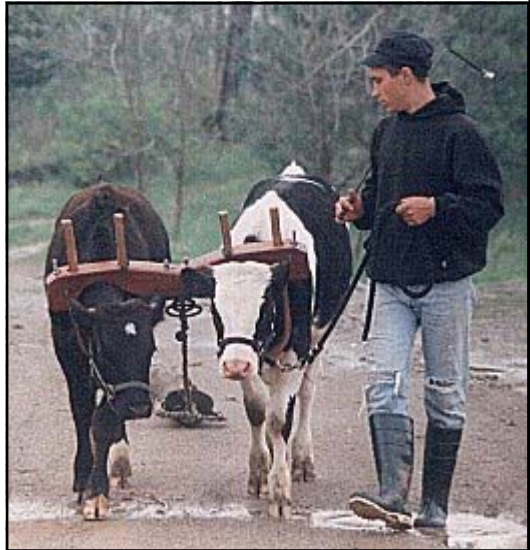
-Letter to: Digambar Singh October 20, 1975

So these duties are there in New Vrindaban, and we shall have to live there self independently, simply by raising cows, grains, fruits, and flowers. I have already explained these things to Hayagrīva, and he is now married and a responsible grhastha. You are of course sannyāsa. Your duties will be more to preach and supervise the activities there. But do everything jointly. Many grhasthas and brahmācārīs will join you for full cooperation. Some of them have already prepared to go there immediately, and perhaps you have received some letters about this. So everything appears very bright in the future. We have to deal with things very sagaciously and success will surely be there. The immediate necessity is to construct some simple cottages for living purposes, and then everything will gradually come out, one after another. I hope that you are already in touch with Hayagrīva, and he must have spoken to you about these ideas. *-Letter to: Kīrtanānanda January 12, 1969*





The “How To” of Cow Protection



MINIMUM COW PROTECTION STANDARDS

Endorsed by the Ministry of Cow Protection and Agriculture
Approved by ISKCON's Governing Body Commission, March 1999

The following is a list of cow protection standards which is now ISKCON Law 507. Most of the standards have been discussed and formulated on the COM cow conference mostly by devotees who have had many years of experience caring for cows and/or the land; **USA:** ISCOWP (Balabhadra dās & Chāya devī), Mādhava Gosh dās, Raṇaka dās (New Vṛndāvana), Hare Kṛṣṇa dāsī (BTG & ISKCON Farm Research Committee), Rohita dās, Dvibhuja dās (New Talavan), Sureśvara dās (ACBSP, ISKCON Farm Research Committee), Anuttamā dās (ISKCON Communications), **England:** Rādhā Kṛṣṇa dās, (ACBSP), Śyāmasundara dās (Bhaktivedanta Manor), **France:** Pitavas dās & Ārādhyā dāsī, **Bangladesh:** Nistula dās, **Serbia:** Gopal, Inc., **India:** Labangaltika dāsī, Ekādaśī dās (Padayatra Secretary) and some of its other members, **New Zealand:** Ananta Kṛṣṇa dāsī

The purpose of these standards is to institute a world-wide cow protection minimum standard within ISKCON. The standards represent a cooperative spirit between the devotees involved, often of diverse views, to come to a general agreement in a joint effort to help prevent any mistreatment of ISKCON cows and help develop cow protection programs that exemplify Srila Prabhupada's vision of cow protection. ISKCON has made significant efforts to protect cows but still mistakes have been made on ISKCON farms in the past which have created present problems that will take time and effort to correct.

The Standards enacted below will assure that the current problems are rectified in the near future and similar difficulties will not arise again.

The "Recommended" is the ideal, the "Permitted" is an exception to the ideal, and "Not Allowed" is self-explanatory. These are internal requirements and they do not supersede whatever local government rules there are. We should follow the higher standard whether it be the Standards or the local government. In transportation, for instance, there are laws of inoculation that MUST be followed.

There are further issues that need to be standardized and such proposals will be presented at the GBC Mayapur meetings. Rewording, and additions to the standards will be presented at each Mayapur meeting if such changes are deemed necessary by the Ministry of Cow Protection and Agriculture after the standards have been in use and feedback has been ascertained.

The term "cows" is used herein to mean cows, calves, oxen, and bulls. Cows are domestic animals, not wild animals. They are dependent on the care of humans.

SECTION 1 COW CARE STANDARDS

- I) Protection
- II) Organization of Cow Care Facilities
- III) Shelter
- IV) Feeding
- V) Milking
- VI) Training Oxen
- VII) Traveling and Preaching Programs
- VIII) Use of Kṛṣṇa's Properties

SECTION 2 BREEDING STANDARDS

- IX) Requirements for Acquiring Cows
- X) Selection of Breeding Stock
- XI) Castration
- XII) Insemination of Cows

SECTION 3 MANAGEMENT STANDARDS

- XIII) Responsibility of Local Community
- XIV) Local GBC Responsibility
- XV) Investigation Team

SECTION 1: COW CARE STANDARDS

I. PROTECTION

Recommended:

- 1) Lifetime Protection

Maintaining a animal for its full lifetime including its training and engagement in productive service. Female cows are not required to be bred (see Section 2.9), and should not do heavy work (Section 1.5).

- 2) Daily Observation of Herd

All cows should be given a daily head count and health check.

- 3) Records

Short concise records of conditions of the cows, land, and weather should be kept on a daily basis. These records are to be used as a tool for monitoring and improving herd conditions.

- 4) Fencing

Stone walls, board fence, woven wire, living fences (except Multiflora rose) or high tensile are recommended to contain cows by creating an impenetrable border.

- 5) Safety and Security

Adequate arrangements must be provided to ensure the safety and security of the cows from theft, abuse, and maltreatment. These may include locking gates, lighting, security surveillance, restricted access or other arrangements as per local circumstances.

- 6) Death

a) A dying cow should be kept as comfortable as possible and given as much association and transcendental sound vibrations as possible. There should be access to water and food.

b) Calf mortality rate should be no greater than 5%, the achievable standard.

Permitted

- 1) Daily Observation of Herd

For larger herds with a shortage of cowherds it is acceptable for the health check to be done weekly. Daily counting is still required.

- 2) Records

Keeping a general farm journal. Keeping breeding records of cows, parentage, offspring.

- 3) Fencing

a) Electric fencing permitted for temporary and immediate fencing; it is especially useful for rotational grazing.

b) Barbed wire permitted in areas of low pressure and where other types of fencing would be impractical to use, but should not be used where animals are concentrated.

Not Allowed

- 1) Transferring Ownership

Transferring of ownership or the use of cows where all the minimum standards aren't observed.

- 2) Death due to the following conditions:

- a) Failure to provide adequate feed, shelter, safety measures and health care.

- b) Performing euthanasia

- c) Placing a sick cow in a situation where he/she will be trampled, eaten, frozen, etc. causing death.

- 3) Neglecting the cow while she dies. Not providing feed and water.

- 4) Calf mortality rate higher than 10%

If records are inadequate, mortality rate can be determined retroactively by seeing how many have been milking in the last 2-3 years and determining how many of their calves are still alive.

- 5) Failure to count cows daily. Daily counting reduces loss of cows to rustling and wandering off.

- 6) Fencing

Failure to provide adequate fencing to control animals' movement. There should be no barbed wire in areas where animals are concentrated and in areas of high pressure, e.g., it shouldn't be used between a pasture and a meadow or crops field.

- 7) Safety and Security

Failure to provide adequate arrangements to ensure the safety and security of the cows as stated in #5 of recommended.

- 8) Failure to maintain appropriate herd records.

II. ORGANIZATION OF COW CARE FACILITIES

Recommended

- 1) Devotees owning their own land and cows

- 2) Devotees owning some land and cows with access to communal rotational grazing and harvesting in order to fully provide for their cows.

- 3) A Cow/Land Trust established to secure cow care.

- 4) Breeding not to exceed carrying capacity of the land.

Permitted

- 1) Centralized goshalla operated by a few devotees where there is an abundant congregation to support the goshalla and a Cow/Land Trust to secure the cow care and a training program for new cowherds.

- 2) Small privately owned family farms working with the Cow/Land Trust.

- 3) Both following breeding programs maintaining proper proportion of animals to land capacity.

Not Allowed

- 1) Maintaining a centralized goshalla without appropriate manpower, training, congregational support, and Cow/Land Trust.

- 2) Breeding without consideration for land capacity.

III. SHELTER

Recommended

- 1) Winter Shelter
 - a) All cows should have access to shelter from the wind, rain, and snow. An open barn or shed facing away from the direction of the prevailing winds is much preferred to a closed building. Many diseases thrive in the warm, humid environment found in some closed buildings. Drafts should be prevented as much as possible in open buildings.
 - b) Adjoining outside exercise lot.
- 2) Clean water, feed, and vegetarian salt available at all times.
- 3) Summer Shelter
 - a) All cows should have access to shade from the sun, either in tree shade or housing.
 - b) All feed must be fed so as to prevent mixture with manure.
- 4) All shelter should have access to sunlight and ventilation.
- 5) All shelters should have clean floors with dry bedding to prevent problems such as hoof rot.
 - a) Use of dry bedding of some type is important. Maintaining cows on dry surfaces helps prevent many foot problems such as hoof rot.
 - b) Pens should be cleaned daily or fresh bedding added.
 - c) Pens with hard floors are preferable to muddy lots and should have a sufficient layer of bedding
- 6) Feed aisles or mangers should be constructed within the shelter so feed can not be pulled into the area where the cows walk. Thereby preventing wastage and feed mixing with manure.

Permitted

- 1) Clean rest areas with rubber bedding.

Not Allowed

- 1) Failure to provide shelter that protects against the wind, rain, and snow.
- 2) Failure to provide shade in the summer.
- 3) Failure to provide sunlight and ventilation.
- 4) Failure to provide clean feeding conditions.
- 5) Failure to provide water (also in freezing weather) and vegetarian salt.
- 6) Forcing cows to lie in sloppy, filthy pens.
- 7) Forcing calves to nurse on cows which have been lying in manure.
- 8) Overcrowding.

IV. FEEDING

Recommended

- 1) All cows should have pasturing facilities. Herding and intensive rotational grazing are the recommended methods of pasturing.
- 2) Diet
 - a) Milking cows, growing and working oxen, and breeding bulls should be fed grains or high quality supplemental feeds such as silage which should be secured to prevent overeating.
 - b) Change from one type of feed to another, especially from dry feeds to fresh feeds, should be done gradually so that bloating, which can lead to death, does not occur.
 - c) Clean water and vegetarian salt should always be available.

- d) All feeding should be done under the supervision of the primary cowherd to ensure the health and safety of the cows.
- e) There should be sufficient feeding space so that all animals can eat without undue stress from herd mates.
- f) Hay or other feed should be available for all animals when natural browsing is insufficient to provide minimal nutritional requirements.

Permitted

- 1) Pasturing with as much rotation of paddocks as possible.
- 2) Tethering when sufficient pasturing grounds are not available and under the following conditions:
 - a) All tethering should be supervised by primary cowherd.
 - b) There must be sufficient availability of green grass and provision for exercise.
 - c) The safety and comfort of the animal is the prime consideration. E.G., Care must be taken to guard against a cow being strangled on a rope especially in hilly areas.
 - d) Adequate water and vegetarian salt must be available if tethered for more than a couple of hours.
- 3) If cows are being fed bhogā and prasādam scraps (not from human plates) in addition to their other feed then such feeding must be carefully monitored by the primary cowherd due to the fact that cows can become unhealthily fat on scraps, sick, or in immediate danger due to carelessly adding indigestible items such as kitchen utensils.
- 4) If grazing grounds are inadequate for the number of cows then there must be a plan to eventually provide grazing land or replenish existing land.

Not Allowed

- 1) Tethering which fails to meet even the Permitted standards described above.
- 2) Total confinement.
- 3) Diet
 - a) Feeding by-products of animal slaughter.
 - b) Feeding a diet consisting entirely of kitchen garbage and prasādam scraps.
 - c) Feeding prasādam scraps from human plates.
 - d) Feeding rotten prasādam and kitchen scraps.
 - e) Carelessly including in feed articles that are not digestible such as garlands, kitchen utensils, floor sweepings, or burnt food such as burnt chaunces, burnt custard.
 - f) Feeding moldy hay.
- 4) Throwing cow's hay and grains on the ground where they can walk on it and pass stool on it.(refer to 3b & 6 of Standard 3 Shelter).
- 5) Failure to follow 2a through 2f of recommended.

V. MILKING

Recommended

- 1) Training Cows
 - a) Cows should be trained by voice commands for the purpose of safety during public events, every day health checks, etc.
 - b) All cows should be given names.
- 2) Milking

THE "HOW TO" OF COW PROTECTION

- a) Milking should be done by hand by trained experienced milkers who regularly milk the same cow(s).
- b) Cows should be brushed daily, and udder washed before milkings

• 3) A Calf and Mother

- a) A calf and its mother should have as much association as possible, especially in the calf's first week, to acquire the essential colostrum.
- b) There must be careful consideration to the eating habits of the calf so that overeating does not occur leading to scours (diarrhea) which can lead to death. Overeating can be prevented by limiting access to the udder of the mother.
- c) Weaning must be gradual, totally achieved no sooner than 3 months with the option of 6 months or longer.
- d) During the weaning process a sweetened grain with the proper balanced ration for a young calf, first cutting, non stemmy hay, and clean water should be available for access by calf.
- e) Caution should be taken against putting calves on pasture too early which can cause bloat (which can be fatal).
- f) The primary cowherd should be supervising and instructing the treatment of the calf and mother.

Permitted

• 1) Training Cows

Cows can be trained to lead by halter or gentle herding techniques. This is for safety and health checks, not working as oxen. However light work is allowed for non lactating cows and must be supervised by the primary cowherd.

• 2) Milking

Milking should be done by hand.

• 3) A Calf and Mother

- a) Calves may be bottle fed colostrum for the first few days and later on milk.
- b) A plan must be presented to correct bottle feeding allowing for new calves in the herd to be with their mothers.
- c) Gradual weaning can be prior to 6 months If the calf's coat changes color or it loses interest in milk (ruling out illness).

Not Allowed

• 1) Ill Treatment

Failure to develop a personal relationship with a cow leading to excessive use of whips, prods, beating, rough treatment, and violence to the animal.

• 2) Milking

- a) Milking by hand in which the following occur: pinch, pull or any other action that may result in the animal becoming disturbed.
- b) Milking by machine. This is not acceptable and can only be done in a crisis situation, e.g., lack of sufficient cowherds. A plan to correct the crisis situation must be presented.
- c) Failure to provide all calves access to mother's milk either directly from the cow or by milk bottle.
- d) Feeding calves milk replacement or by the bucket method.

• 3) Working cows as oxen except in dire emergency.

VI. TRAINING OXEN

Recommended

- 1) Training oxen should begin at 2-4 months to develop a relationship of love and trust. No work is done at this time due to softness of bones as well as other reasons.
- 2) Training should be by voice commands or Indian technique of pierced nose with rope halter.
- 3) All oxen should be given names.

Permitted:

- 1) Training at a later age but still developing a relationship of love and trust.

Not Allowed

- 1) Using whips excessively, beating, rough treatment, and violence to the oxen.

VII. TRAVELING AND PREACHING PROGRAMS

(Such programs represent ISKCON to the public. If there is an unfortunate incident it is ISKCON that can be sued and attacked, not the individuals handling the animals.)

Recommended

- 1) Before traveling, all oxen must be well trained with a proven working reliability by an experienced teamster.
- 2) All cows and calves involved must be trained to voice commands and/or halter broken.
- 3) All local laws of health, safety and insurance must be followed.
- 4) All animals in such programs must have had previous experience in the association of people so as to not be in a state of shock when taken to be viewed by a crowd.
- 5) The health, safety and general well-being of all animals and people in such programs and people observing such programs takes priority over achieving inappropriate daily distance or preaching goals.
- 6) There must be fair and considerate treatment of any uncooperative animal.
- 7) Oxen should be handled by experienced teamsters only.
- 8) Cows, calves should be handled by persons approved by the primary cowherd. They should have had some previous experience caring for the animal.
- 9) Daily health check of all animals. A sick animal is one which is: noticeably unwell, has temperature, not eating, or diseased. Appropriate remedial measures must be taken.
- 10) Transported Oxen must be well-provided at all times with the following:
 - a) Sufficient space to lie down and rest.
 - b) Sufficient ventilation, sunlight and protection from bad weather.
 - c) Legally safe & secure transport facilities (doors closed while traveling, vehicles and/or trailers must be in well maintained condition).
 - d) Sufficient food, water, and vegetarian salt.
 - e) Sufficient exercise by being un-trailerred at night and when not traveling.
 - g) Daily brushing.
- 11) Walking Oxen

In addition to all the above:

- a) Appropriate and timely foot care (including shoeing, when needed).

THE "HOW TO" OF COW PROTECTION

- b) Extra rest time and health care.
- c) Their load must be appropriate to their strength power, health, and age, and approved by an experienced teamster.
- f) Legs and feet of walking oxen should be given special attention during health check.
- 12) On a monthly basis, the oxen should have a complete health examination by a local government or approved veterinarian.
- 13) Concise records of health and temperament of the oxen, local land conditions, weather, distances traveled, and public interest shown to the oxen should be kept on a daily basis.

Permitted

- 1) If the person handling the oxen is not an experienced teamster he must be in training and under the strict supervision of an experienced teamster.

Not Allowed

- 1) Training programs consisting of only 1 to 7 days previous to beginning traveling.
- 2) Failure to provide sufficient supervision of public access to the cows, resulting in abuse to the cows.
- 3) Initiating a travelling preaching program with bullocks without sufficient provision for a suitable place for retirement and cowherd care.
- 4) Failure to provide animals the recommended and permitted.

VIII. USE OF KRISHNA'S PROPERTY

Recommended

- 1) Any property (land and cows) belonging to the Deity should be protected by environmentally sound conservation practices designed with the long term fertility and preservation of the soil in mind.
- 2) Construction of convenient watering places like ponds and tanks and easily accessible shade is appreciated by the cows.

Permitted

- 1) Land may be burned only when dense growth needs to be removed to increase productivity.
- 2) Timber
 - a) Conditions for timbering Individual select cuttings of trees may be done for the erection of homes, road right-of-ways, construction of fence lines, crop land, or pasture.
 - b) Use of timber cut trees so cut must be utilized for construction purposes or firewood.
 - c) Replacement when deemed necessary to forest health and supply, trees cut should be replaced by planting new ones in appropriate locations

Not Allowed

- 1) Grazing animals who are destined for slaughter on ISKCON/devotee property.
- 2) Removing sod or yearly burning of crop or grazing land.
- 3) Clear cutting of trees.
- 4) Cutting of trees on steep land or land which may be prone to erosion or any other activity that may lead to erosion.
- 5) Performing activity that may lead to contamination of any bodies of water.

- 6) Selling or exchanging land used by cows except where the cows will directly benefit or such sales will increase the assets of the cows.
- 7) Allowing unauthorized passage of people without permission from temple and knowledge of the primary cowherd.

SECTION 2: BREEDING STANDARDS

IX. REQUIREMENTS FOR ACQUIRING COWS

Recommended

• 1) Animal Acquisition

- a) A cow should not be acquired or bred for furnishing milk without well-defined plans to provide care and lifetime engagement for her resulting offspring.
- b) Cows should be acquired from the nearest ISKCON farm.

• 2) Sufficient Land

Care includes having sufficient productive land to support the offspring. This land should be held in a Cow/Land Trust and maintained by self-reliant, low-impact methods.

• 3) Engagement of All Stock

Lifetime engagement includes all male calves born be trained and worked and female calves be trained to voice commands or halter broken. Female cows are not required to be bred, especially if there are no plans to train any resultant bull calves.

Permitted

• 1) Use of Non-devotee Land

The acquiring of grazing rights, or leasing of land from non-devotees to provide sufficient land for the cows' support.

• 2) Trust funds and Lifetime Adoption

The establishment of Trust Funds and Lifetime Adoption, in order to adequately provide for a calf throughout its entire life.

• 3) The Purchase of Feed

Purchase of feed is permitted when existing lands fail to provide enough.

• 4) Leasing Cows

Arrangements for leasing cows to others is permitted if it can contribute to the overall goal of cow protection, and if the lessee is legally bound to abide by all Cow Protection Standards, including, but not limited to, arrangements made for lifetime protection of both cow and calf.

• 5) Acquiring Cows From Non-devotees

When the nearest ISKCON Farm is practically too far for safe transport, has no animals suitable for training, or has no need to give cows away, purchase from non-devotees is permitted.

Not Allowed

• 1) Animal Acquisition

Procuring or breeding of a cow for the purpose of supplying milk without any plan for the care, training and engagement of offspring.

- 2) Lack of land and funds for animal care. Failure to provide sufficient land, cowherds, and funds to

THE "HOW TO" OF COW PROTECTION

support the cow and/or offspring.

- 3) The Purchase of Feed

Purchasing feed without planning for future production by sustainable agricultural methods.

- 4) Leasing Cows

Leasing cows without the legally binding and well monitored contracts as described in # 4 of permitted.

- 5) Acquiring Cows From Non-devotees. Buying cows from non-devotees instead of from local overcrowded ISKCON Farms when practical transportation of cows is possible and animals suitable for training are available.

X SELECTION OF BREEDING STOCK

Recommended

- 1) Choosing Breed

a) Choice should be made on the basis of retaining traits desirable and appropriate for ISKCON devotees' particular needs.

b) Heritage breeds should be considered before more recent breeds.

- 2) Choosing Desirable Traits

a) Choice should be made taking into consideration docility, longevity, resilience, and the ability to thrive on low-quality feeds.

b) Desirable milking cow traits include, in addition to longevity of milking, ability to produce milk on low-quality feeds, durability, ease of handling and leading, long teats.

c) Desirable working oxen traits include, in addition, the ability to work well, durability, ease of training, and sturdy hoof history in lineage (black hoofs being generally stronger).

- 3) Geographical Considerations

a) Choice of breeding stock depends a great deal upon local conditions and availability.

b) Breeds that are excellent choices for one area may not be good choices for other areas. For example, the 'Taurean' breeds are good for temperate climates while the 'Zebu' types are better for the tropics.

Permitted

- 1) Crossbreeding

To use existing stock with an appropriate crossbreeding program, conducted by an experienced breeder, to breed in the desirable bloodlines and breed out the original bloodline.

Not Allowed

- 1) Choosing exotic breeds that are unsuitable for location and purposes.

- 2) Breeding done without appropriate knowledge which can result in unusable animals. E.g., most Taurean crossed Zebu cows have proven too unruly to milk.

XI CASTRATION

Recommended:

- 1) Bull calves of European Taurean breeds should be castrated at 6 months to a year. Indian Zebu breeds should be castrated at 1 year to 2 years.

- 2) The method of castration should be by emasculation, specifically using the tool bordezio (bloodless castration) performed by a veterinarian, or experienced professional.

Permitted:

- 1) Cutting by a veterinarian or experienced professional.
- 2) Use of bordezio by experienced cowherd.

Not Allowed:

- 1) Banding (using rubber bands around the testicles until they drop off).
- 2) Performing acceptable methods of castration by inexperienced cowherd.

XII INSEMINATION OF COWS

Recommended:

- 1) Cows should be inseminated by a bull kept at the farm, rather than by artificial insemination, as requested by Śrīla Prabhupāda. Such bulls must be properly enclosed for safety reasons, as well as to avoid unwanted inseminations.
- 2) Careful records of breeding must be kept in order to avoid unplanned inbreeding.
- 3) When a bull can not be kept safely and humanely, use of a community bull or neighbor's bulls is recommended.

Permitted:

- 1) Artificial Insemination may be used when in special circumstances bulls cannot be properly maintained.
- 2) Bulls from a neighbor (even though not farmed according to Vaiṣṇav principles) may also be used if they are suitable.
- 3) Inbreeding may be practiced only under strict conditions by an experienced breeder.

Not Allowed

- 1) Not restricting a bull in a standard bull pen. Such lack of precaution will inevitably lead to unwanted inseminations. It can also be the cause of life-threatening accidents to cowherds or guests.
- 2) Keeping a bull without following the same standards given herein for the cows.
- 3) Keeping a bull without association. At least one ox should be kept with him, to prevent boredom.
- 4) Keeping the bull in adjacent pastures or stalls to cows he should not breed.

SECTION 3: MANAGEMENT STANDARDS

XIII RESPONSIBILITY OF LOCAL COMMUNITY

Recommended

- 1) Housing and use of ISKCON land contracted to devotees who are seriously committed to protecting cows and working the land.
- 2) Land Base.

Cow programs should be increasing the land base available to cow herding, not decreasing.

a) Lands may be sold or exchanged only if there is an offsetting advantage and an increase to the overall program.

b) New land acquired to be given, leased, sold at fair market value to those who seriously committed to protecting cows and working the land. Any income generated from such transferred land should be

THE "HOW TO" OF COW PROTECTION

used to benefit the cow protection programs.

c) The determination of land sales in regard to what is best for the cows should be made by the cows' primary cowherd.

• 3) Ox-power Produce

Ox-power produce should be purchased from the goshalla at above standard market price by temple and devotees. Milk from protected cows should be sold at a premium, with the amount above the standard market value used to make capital contributions to a Cow Protection Trust Fund.

• 4) Cow Remains

a) Local government and customs must be respected.

b) When possible it is recommended to honor the dead body of the cow.

c) After all reasonable efforts have been taken to maintain the soul in the body of the cow, when the soul has left the body of the cow, there is no bar to someone recycling the body unless illegal in that country and after consulting with the primary cowherd. (Recycling the dead body of the cow is in accordance with Śrīla Prabhupāda's instruction in the Teachings of Queen Kuntī and other sources.)

• 5) Goshalla Reporting

Managers of goshalla should be accountable for quarterly presenting facts and figures that show the value of the cows, their services provided (i.e. plowing, transport, labor, publicity), their produce and their by-products.

Permitted

• 1) Milk and Ox-power Produce

a) When cows and cowherds are sufficiently supported by temple, milk and produce can be given to the temple.

b) Milk and ox-power produce bought at market value by temple and devotees.

• 2) Land Base

Lands may be put into private hands if there is a means easily monitored and managed by which the land will continue to be used for cow protection, i.e. retention of grazing rights, leasing agreements, or the establishment of a fund dedicated to obtaining new land.

Not Allowed

• 1) Land Base

a) Selling lands for the sake of generating cash flow to deal with non-capital expenditures. This is strictly forbidden except in emergency situations and then only after approval by the Minister of Cow Protection and Agriculture and the approval of the GBC.

b) Selling land currently used by cows that decreases the over all land base available to the cows.

c) Using ISKCON's land to graze animals destined for slaughter. (See Standard VIII Use of Krishna's Property, Not Allowed #1)

• 2) Taxing of Goshalla.

• 3) Milk and Ox-power Produce

Consuming milk and produce without compensation to the goshalla.

• 4) Cow Remains

a) Using the body of a dead cow by cow protectors for profit making activity to such a point that it encourages negligence that contributes to the cow's death.

b) Neglecting to follow the government's laws and local customs in regards to disposal of the dead cow's body.

5) Goshalla Reporting

Failure to present facts and figures that show the value of the cows, their services provided (i.e. plowing, transport, labor, publicity), their products and their by-products.

XIV LOCAL GBC RESPONSIBILITY

Recommended

• 1) The GBC Should Quarterly

a) Meet with cowherds and ox teamsters. This meeting should be a minimum of 1 hour and private.

b) Visit every cow facility and traveling program and review records. (See Standard 1) c) Present written reports to the Ministry of Cow Protection and Agriculture. (Report forms can be found on page 66 of this document)

• 2) Investigation of Abuses

When a GBC receives reports of cow abuse in his/her locale, the complaint must be investigated by the GBC and if found true, the situation must be corrected by consultation with local Farm Council and the Ministry.

• 3) Follow-up by Investigation Team

Where no action has been initiated after one week following investigation or if the Ministry deems the action insufficient, the Ministry will appoint an investigation team to create a report specifying actions needed to correct the situation.

• 4) ISKCON's Ministry of Justice Involvement

If corrections are not initiated within one month following the initial abuse report, the problem will be referred to ISKCON's Ministry of Justice for further action to protect the cows.

Permitted

• 1) Temple Presidents are responsible to see that local Goshalla Managers send biannual reports to the Ministry of Cow Protection and Agriculture. The local GBC Deputy/Deputies shall validate these reports by either personally visiting or appointing an accountable and reliable representative to do so.

• 2) Response to Abuses

Permitted standards are the same as recommended standards #2,3,4 above.

Not Allowed

• Failure to meet even permitted standards.

XV INVESTIGATION TEAM (IT)

Recommended

• 1) Selection of IT

The Ministry will collect a world-wide list of devotees to act as a resource pool. Such devotees will be knowledgeable of the standards and have agricultural experience. From this list the Ministry will select an appropriate IT.

• 2) Travel

To defray travel expense, members of the list who live closest to the problem in question will be chosen first. Members are encouraged to provide travel expense. A fund can eventually be set up to help with travel expense.

THE "HOW TO" OF COW PROTECTION

• 3) Membership of IT

The IT should consist of 2 or more devotees not involved in the management of the program being investigated and a professional suited to the particular situation selected by the IT. The professional should not be currently employed by the farm under investigation.

• 4) Duties of IT

The IT will arrange for group meetings and individual interviews with parties concerned and is responsible for the compilation of reports given to all GBC concerned (Local Commissioner, Global Secretary, Justice and Cow Protection Ministries).

Permitted

- Same as recommended

Not Allowed

- Failure to follow the above standards in part or whole.

GLOSSARY

Cow by-products:

Leather and bones are by-products from the cow after death

Clear cutting:

To log an area by removing all of the trees at one time.

Concentrates:

Protein supplements and grains.

Cow/Land Trust:

Use of assets and income generated from assets to benefit the cows. Assets including land, capital funds, and income producing investments, placed in trusts to secure the long term viability of cow protection programs.

Exotic Breeds:

A breed that is not historically used in an area.

Experienced Breeder:

Is one who has a minimum of three years working with cows and bulls under guidance. He must know how to interpret breeding charts and be able to distinguish the weakness and strengths of particular animals when compared to other related or non-related animals.

Experienced Teamster:

An experienced teamster is one who has had at least 2 years experience with caring for cows prior to becoming a teamster and has at least one year experience working with oxen both in the field and at preaching events.

Feed:

Any of the following: Hay, grains, concentrates, other fibrous foodstuffs.

Goshalla:

A cow sanctuary, where cows, bullocks and bulls are fully protected, productively engaged, and receive tender loving care for their entire lives.

Heritage:

Traditional, non-hybrid seeds and animal breeds used historically in sustainable, locally viable systems.

Inbreeding:

Breeding within same family line. There are two forms; line breeding where distantly related animals are bred to strengthen a particular trait they have in common and inbreeding where both animals used are within three generations of each other. For example grandsire to granddaughter, cousins, dam to son, brother to sister.

Land Capacity or Carrying Capacity of the Land:

The number of cows the land can support. Supporting the cow adequately means to provide grazing and/or produce fodder for year-round maintenance of a specific number of cows, using local or intensive natural agriculture practices. By talking to local farmers or government agencies, carrying capacity of the land in the local area can be determined. This can vary widely from area to area. If the carrying capacity of the land is 5 acres per cow x 3 bred per year x 12yrs (average life span) =180 acres.

Low impact

Agriculture that uses localized techniques that are sustainable and environmentally viable. Labor intensive rather than capital intensive.

Primary Cowherd:

This refers to the person who the community holds responsible for the practical everyday care of the cows. He/she may be in charge of other cowherds.

Products

Milk, dung, urine are produce from the cow.

Self-reliant

Producing most of what is consumed of the basic essentials.

Silage

Fermented feeds stored in silos or bunkers, most commonly corn.

Stock:

Cows, Oxen, bulls, calves - the herd.

Tether:

To limit a cow's pasturing ability by tying the cow to a fixed spot.

BIANNUAL COW PROTECTION REPORT

*** PART A: PROJECT INFORMATION ***

1. Project Name:

2. Indicate Period of Report :
1st - (due June 1) ____
2nd -(due December 31) ____

3. GBC Deputy/Deputies name:

4. GBC Deputy address/phone/e-mail:

5. Name/position of devotee completing report:

6. The address/phone/e-mail of devotee completing report:

7. Date of GBC Deputy's quarterly inspection visit and meeting with Chief Cowherd:

8. Name of Temple President or Project Director:

9. Temple President address/phone/e-mail:

9. Name of Chief Cowherd or ox teamster in charge of cow care:

10. Chief Cowherd address/phone/e-mail:

11. Additional cow personnel:

*** PART B: COW CENSUS ***

I. BULLS/OXEN

CATEGORIES: bull, ox, bull calf, t (training), w (working), r (retired), i (infirm)

LIST name, age, year of birth (or approximate year of birth) for each animal, beginning with oldest ending with youngest. Add relevant comments. [Deceased animal in brackets/date of death.]

(Given away animal in parentheses/ date of contract /name/address/phone/e-mail of caretaker.)

*** SAMPLE:

1. Bhīma 17 (1983) ox, r
- [2. Dharma 15 (1986) ox, i -- died June 15, 2001, complications of broken leg falling down hillside]
3. Bhakta 10 (1991) ox, w -- Pulled children's cart in Ratha-yātrā, featured in Birmingham news 8/8/2001
4. Burfi 9 (1990) ox, w
- (5. Sandesh 7 (1992) ox, w -- care contract with Pṛthu dās and Arci dāsī, local devotees -- 7/5/1998 -- 150 Newfield Road, Birmingham, Texas 88912, 415-333-1111, prthu@pamho.net , farm last inspected 10/1/2000, ISKCON cow protection standards maintained.)
6. Gopal (2001) bull calf, t, born 3/1/2001 to Bhūmi , castrated at 6 months, being trained by Vaiṣṇava dās.
{Add more numbers if needed} ***

- 1.
- 2.
- 3.
- 4.

Additional Comments:

II. COWS

CATEGORIES: cow, heifer, calf, m (milking), b (bred), t (training), w (working), r (retired), i (infirm).

LIST name, age, year of birth (or approximate year of birth) for each animal, beginning with oldest ending with youngest.

Add relevant comments.

[Deceased animal in brackets/date of death.]

(Given away animal in parentheses/ date of contract / name/address/phone/e-mail of caretaker)

***SAMPLE

1. Gaṅgā 18 (1982) cow, r
2. Subhadrā 14 (1984) cow, r, i
- [3. Gopī 14 (1984) cow, r -- died 6/10/2001, Johnnes disease]
4. Bhūmi 4 (1997) cow, m -- had calf Gopal 3/1/2001, peak milk production 70 pounds/day, June
5. Lalitā 2 (1999) heifer, bred 5/4/2001 ***
{Add more numbers if needed} ***

THE "HOW TO" OF COW PROTECTION

- 1.
- 2.
- 3.
- 4.

Additional Comments:

**** PART C: GENERAL ANALYSIS OF COW CENSUS ****

(Please give total information for current calendar year -- not just current quarter.)

1. Births in current calendar year:
2. Deaths in current calendar year:
3. Purchases:
4. Animals added to herd by other means (gift, etc.)
specify means:
5. Trades (allowable only as specified in Standards):
6. Given away (allowable only as specified in Standards):
7. Illness, diagnosis, by whom, action taken:
8. Number of cows, female calves:
9. Number of bulls/oxen, bull calves:
10. If ratio of cows to bulls is more than 60 percent cows to 40 percent bulls, please explain reason for discrepancy:
11. Additional comments on cow census:

***** PART D: CARRYING CAPACITY OF LAND ****

1. Land needed to maintain 1 cow in your location:
2. Present herd size:

3. Total land needed in proportion to herd size:
4. Total area of land actually available for herd in your project. (Specify amount in pasture, amount under cultivation for cow feed.):
5. Is land in your project protected from non-cow use by a Goshalla Trust or a Cow/Land Trust?
6. Comments:

*** PART E: FINANCIAL ANALYSIS ***

Due only for the last report of the year

1. Beginning balance or deficit for this year for Cow Department/and Cow/Land Trust
2. Income from Donations for this year:
3. Income from Sales for this year:
4. Expenses this year:
5. Remaining balance (Remaining balance is calculated by adding the beginning balance and income, then minus the expenses)
6. Projected Cash need and availability for next year:
7. Projected plans for next year (and beyond, if any):
8. Comments:

*** PART F: COMPLIANCE WITH ISKCON LAW 507

MINIMUM COW PROTECTION STANDARDS ***

(Please refer to Minimum Cow Protection Standards which can be obtained from www.iscowp.org by clicking the Cow Protection Standards button on the left of the front page to complete this section. The standards can also be obtained from iscowp@earthlink.net upon request. Indicate appropriate rating for each item. If item does not apply to this project, rate it as "allowed." For example: under Insemi-

THE "HOW TO" OF COW PROTECTION

nation, if project has only oxen and no cows, there is no insemination, but standard is not broken. Indicate a rating of "allowed.")

****SECTION 1 COW CARE STANDARDS ****

I) Protection
recommended ___
allowed ___
needs work ___
Comments:

II) Organization of Cow Care Facilities
recommended ___
allowed ___
needs work ___
Comments:

III) Shelter
recommended ___
allowed ___
needs work ___
Comments:

IV) Feeding
recommended ___
allowed ___
needs work ___
Comments:

V) Milking
recommended ___
allowed ___
needs work ___
Comments:

VI) Training Oxen
recommended ___
allowed ___
needs work ___
Comments:

VII) Traveling and Preaching Programs
recommended ___
allowed ___
needs work ___

Comments:

VIII) Use of Kṛṣṇa's Properties

recommended ___

allowed ___

needs work ___

Comments:

****SECTION 2 BREEDING STANDARDS****

IX) Requirements for Acquiring Cows

recommended ___

allowed ___

needs work ___

Comments:

X) Selection of Breeding Stock

recommended ___

allowed ___

needs work ___

Comments:

XI) Castration

recommended ___

allowed ___

needs work ___

Comments:

XII) Insemination of Cows

recommended ___

allowed ___

needs work ___

Comments:

****SECTION 3 MANAGEMENT STANDARDS****

XIII) Responsibility of Local Community

recommended ___

allowed ___

needs work ___

Comments:

XIV) Local GBC Responsibility

recommended ___

allowed ___

THE "HOW TO" OF COW PROTECTION

needs work ___
Comments:

XV) Investigation Team
recommended ___
allowed ___
needs work ___
Comments:

THIS REPORT IS VERIFIED BY:

Temple President
or Project Director: Date:

Chief Cowherd: Date:

Send report to:
Balabhadra dās
ISCOWP President
e-mail: iscowp@earthlink.net
Mail: ISCOWP
RD1 Box 322 A
Moundsville, WV 26041
U.S.A.
Phone: 1-(304)-843-1658

AND your GBC Deputy. If you do not have their name/contact e-mail please contact us and we will supply it.

This report sent to or seen by GBC Deputy___ Date:
~~~~~

Visit us on the WEB at : <http://www.iscowp.org>





## COW CARE

### Milking the Cows

From: Protecting Cows: A Handbook Of The Principles & Practices Of Vegetarian Cow Husbandry  
Chapter Eight page 37-51  
Compiled & Written by  
Śyāmasundara dās (Stuart Coyle)  
Farm Manager  
Bhaktivedanta Manor Cow Protection Project  
Hilfield Lane, Aldenham, Herts WD25 8EZ UK  
Tel 01923 855350/857244  
e-mail: syamasundara@pamho.net

#### TRANSLATION

'O great hero, protector of living entities, if you desire to relieve the living entities by supplying them sufficient grain, and if you desire to nourish them by taking milk from me, you should make arrangements to bring a calf suitable for this purpose and a pot in which the milk can be kept, as well as a milkman to do the work. Since I will be very much affectionate towards my calf, your desire to take milk from me will be fulfilled'.

#### PURPORT

These are nice instructions for milking a cow. The cow must first have a calf so that out of affection for the calf she will voluntarily give sufficient milk. There must also be an expert milkman and a suitable pot in which to keep the milk. Just as a cow cannot deliver sufficient milk without being affectionate to her calf, the earth cannot produce sufficient necessities without feeling affection for those who are Kṛṣṇa conscious.

- Śrīmad-Bhāgavatam 4.18.10 and Purport

As small calves tied with ropes await anxiously the time of milking, when they will be allowed to drink the milk of their mothers...a small calf is not

satisfied unless allowed to suck the milk from the mother's udder...

- Śrīmad-Bhāgavatam 6.11.26 and Purport

The earth planet personified come as a cow, and , as though she saw her calf, she delivered milk profusely when she saw all the good qualities of Mahārāja Gayā. ....A cow delivers milk in the presence of her calf.

- Śrīmad-Bhāgavatam 5.15.10 and purport

A cow delivers more milk than is needed by the calf because milk was intended for man.

- Matchless gifts pg. 4

Cow's milk is not meant for the cow but for the human being. Cow will not drink milk.

- Śrīla Prabhupāda Bhagavad-gītā, lect 1966

These Cows had their own calves, and the calves that were grazing beneath Govardhana Hill were larger, they were not expected to drink milk directly from the milk bag but were satisfied with the grass...

...Elderly cows are taken care of by the men and the calves are taken care of by the boys; and as far as possible the calves are kept separate from the cows, so that the calves do not drink all the available milk.

- Kṛṣṇa Book ch. 13 Paragraphs 11 & 12

A cow eats grasses in the pasture and fills her milk bag with sufficient milk so that the cowherdsman can milk her.

- Śrīmad-Bhāgavatam 4.17.23 and Purport

There are many important points to consider regarding the calf's practical relationship with its mother. If you can follow the principles of

making the cow and the calf happy then Kṛṣṇa's will be pleased, the milkman is pleased and society is pleased.

There are some similarities between Kṛṣṇa's system of cow-keeping and today's. Note the differences and adjust your methods in favour of the natural system as taught and practiced by Lord Kṛṣṇa in His childhood activities.

### **Milking twice a day**

Cows are generally milked twice a day, once during the early morning and then again in the evening when the herds come home from the pasturing grounds. From the verses on the previous pages, we can see that Kṛṣṇa brought the cows back home at dusk.

### **The calves are brought to their mothers**

At milking time bring the calves before their respective mothers to stimulate the 'letting down' of the milk. This may be accomplished in a number of ways:

1. The calf may be allowed to suckle from its mother's udder for a few moments before you start milking. The calf can then be secured near its mother's head. It seems that Indian-type cows will not 'let down' their milk unless the calf has first been suckled.
2. The calf can be placed near its mother's head initially until you have finished taking your share and then released to drink milk directly from the udder.
3. The calf may also be kept in its pen where its mother can see it until you have taken your quota and then let loose to spend time with its mother.

The practicalities of where the calf is positioned during milking may vary from country to country and depend on the type of cow. Irrespective of which system is used, the most

important point is that milk is saved in the udder for the calf and the calf drinks this milk directly from its mother, being allowed to stay with her for a suitable period of time. One can judge from watching when they lose interest in each other.

### **The milkman saves milk in the udder for the calf**

The milkman takes his share of the milk, leaving sufficient for the calf's satisfaction. When the milkman/maid has finished milking, the calf which may have been secured alongside its mother, or kept separate, is now released to drink directly from its mother's udder. Mother cow very happily and affectionately licks and grooms her calf. There is a warming picture of the calf suckling contentedly from its mother standing in a parallel position. The relaxed mother pleasingly grooms the rump of her calf.

Our experience has shown that in most cases, the cow has the ability to let down milk for the herdsman whilst saving milk for her calf, therefore putting the cow in charge of rationing. This is service to the cow as opposed to exploitation and is not possible when a milking machine is used.

### **How much milk should the calf have?**

The amount of milk required by the calf will vary according to age etc. A young calf generally requires 10% of its body weight in milk each day. A Friesian calf weighing 45kgs will at first require 4.5kgs of milk. As the calf gets older it becomes less dependant on milk as it starts to eat grass and hay.

Roughly speaking, 25% of the total daily milk yield will be on one teat. After some weeks the quantity saved can be reduced or left as is appropriate. However, there must always be milk left in the udder for the calf.

As saving milk in the udder is an essential part of vegetarian cow husbandry, its importance cannot be stressed too often within the pages of this book.

### **Bucket feeding**

Not only is bucket feeding a calf undesirable, it is unhealthy, unnatural and un-Vedic. It should only be done in extreme circumstances for example if the calf's mother has died and there is no foster mother available. Bottle feeding is by far the better option in such a situation.

### **The cows and calves are housed or pastured separately**

Shortly after milking, the calves leave their mothers and join other calves to sport and play. They are kept in separate pens or pastures from their mothers. The calves will stay together, separate from the adult cows, until milking time comes around again in the morning or evening.

### **How to milk**

There are many different methods of milking cows, depending on what part of the world one is from. However, the fundamental points are the same, even if the technique differs.

### **Washing the udder**

Before milking, it is necessary to first wash the udder with warm water. This removes any dung or dirt which the cow might have picked up whilst laying down and which could contaminate the milk. Washing, like other routine tasks helps stimulate 'let down' from the cow who is by now happily waiting to be milked.

### **Holding teats**

The teats should be held firmly, but not too tightly. Indeed all movements near the udder should be firm and sure. Ticklish movements or holding the teats too lightly are often rewarded with a swift kick.

### **Milking – the Indian system**

Apply pressure on the teat using the fingers and the knuckle of the thumb, this being pushed against the teat and then down the teat. The fingers remain on the other side. This squeezes the milk out.

### **Milking – the Western system**

Squeeze the teat between the first finger and the thumb at the point where it joins the udder thus trapping the milk in the teat. The remaining fingers are then squeezed around the teat to expel the trapped milk. Release the grip allowing the milk from the udder to flow into the teat again. Squeeze first with the left hand and then with the right. Repeat with the left hand and so on.

To learn to milk with some degree of confidence and at a good speed will probably take a week of practice on a patient cow.

### **Small teat milking**

Sometimes cows are found to have teats too small to milk in the conventional way. It is a modern breeding aim to engineer cows with smaller teats for ease of use with milking machines. I prefer bigger teats and don't use machines for milking.

In the case of a cow with small teats, milking by hand may be performed in the following manner: First lubricate the teats. One may use the milk itself although in practice something more greasy like ghee or oil is preferable. Grip the teat between thumb and finger(s) and slide down the teat thus expelling the milk.

### **The ideal milking position**

Krishna would squat on the balls of His feet to milk. If you are unable to balance this way, then a small stool may be necessary. Usually a milking-stool is three legged for ease of movement. Resting one's head against the side of the cow,

just in front of and against the back leg, while you are milking lets the cow know what you are doing and gives you fair warning of what she is about to do. By feeling her muscle movements, one can predict a possible kick or unwanted movement.

### **Milking machines**

The modern method of using a milking machine is condemned within the pages of the Śrīmad-Bhāgavatam.

*The cow stands with tears in her eyes, the sudra milkman draws milk from the cow artificially, and when there is no milk the cow is sent to be slaughtered.*

- Śrīmad-Bhāgavatam 1.17.3 Purport

From this quote it can be clearly understood that machines have no place in a Vedic/Natural milking parlour. Cows MUST be hand milked. The use of milking machines creates a false 'manpower' relationship with cows. In reality, one person should be milking no more than 10-13 cows. Modern dairies with machine milking apparatus, milking perhaps 100 cows are far removed from the system outlined in this book. Large herds of artificially milked cows usually means large numbers of unworked and I am sorry to say unwanted oxen/bulls.

### **Calves and milking machines**

The cow/calf relationship suffers immeasurable damage from the use of milking machines. It is not possible to ensure that there is enough milk left in the udder for the calf. Machines also require the use of powerful and poisonous chemicals for their so-called cleaning. Indeed the use of such machines distances the milkman from the all important close affectionate handling of the cow who should be embraced and her chin gently scratched. Milking machines display an undeniable air of exploitation.

### **Extra food at milking time**

At milking time, the mother cow will most likely appreciate something a little different from her normal grass or hay, such as grains or vegetables. By giving her such foods you will ensure she is occupied and content, thus making her easier and steadier to milk. It will also serve as an incentive for the cow to enter the milking area.

Cows which are giving milk are fed according to their yields. (See chapter Four)

### **Tying the cows legs during milking**

Certain cows may require some form of restraint to prevent them from kicking over the milk bucket or indeed the milkman, at milking time.

The traditional method practiced by Kṛṣṇa and His cowherd friends was to tie the back legs of the cows using a small rope. This was secured just above the knees, probably using some form of slip knot for quick release.

*Kṛṣṇa and Balarāma carried binding ropes on Their shoulders and in Their hands, just like ordinary cowherd boys. While milking the cows, the boys bound the hind legs with a small rope. This rope almost always hung from the shoulders of the boys and it was not absent from the shoulders of Kṛṣṇa and Balarāma.*

- Śrīmad-Bhāgavatam Ch. 21 para 14

At Bhaktivedanta Manor we have small gates which close behind the cow when she enters the milking stall. If necessary, the cows two rear legs can be secured to the gate, holding her firm. Very often, after a cows first calf, some type of leg restraint will be required. After a few months when the cow has grown accustomed to being milked it will not be needed.

### **Embracing, scratching and brushing**

After the cows have been milked they can be lovingly caressed and embraced. They enjoy

being brushed down and being gently scratched under the chin.

The relationship between the cow and herdsman is very important. It is one of trust and love and of symbiosis –i.e. they help each other. In the main, the herdsman is the servant of the cow, and if he deals with the cow nicely the cow will respond with love and co-operation and plenty of milk.

### **A regular routine**

The importance of a regulated routine for the herding and milking of the cows cannot be overstressed, in fact in practical terms a well-regulated life is the basis for a peaceful life for the milkman as much as the cows.

The cows and bulls will respond to a routine of the same time, in the same place, by the same person, in the same way, every day.

### **Milk yield**

*Even the poorest of the householders keep at least ten cows, each delivering twelve to twenty quarts of milk (13-23 litres), and therefore no one hesitates to spare a few ponds of milk for the mendicants.*

-Śrīmad-Bhāgavatam 1.19.39 Purport

*Cow gives 40-50lbs (18-22 litres) of milk a day.*

-Śrīmad-Bhāgavatam 1972 SP

It can be seen here that the milk yield mentioned is comparable to modern high-yielding cows. However it is also stated that in previous ages the cows gave more milk than today.

*In Kali Yuga... the cow does not give as much milk as it used to give formerly.*

- Śrīmad-Bhāgavatam 1.4.17-18 Purport

### **Good grass – good milk**

The yield of your cow will depend upon the breed and how it is fed. Specifically if the cow is fed with nutritious grass from the field, as well as being allowed to suckle its calf, it will give as much milk as possible.

### **Milk yields of different breeds**

Independent research should be carried out to ascertain the yields of the various breeds of cow. Listing all the different breeds and their yields is beyond the scope of this book.

### **What to do with the milk after milking**

There are legal requirements in place in each country governing the treatment of milk before consumption and most certainly before selling any. One will need to contact the respective authorities in this regard. Basically the milk needs to be boiled and then kept refrigerated or as was done in the 'churn days' cooled down as soon as possible after milking.

The method of dealing with milk in a traditional village is noted as follows:

*Just like Nanda Mahārāja was keeping cows.*

*Similarly there are many villages. So the system is:*

*- they have got a big pan and whatever milk is collected, put into that pan. It is being warmed. So they drink, the whole family members. They drink milk whenever they like. So whatever milk remains at night they have to convert it to yoghurt. The next day they use milk and yoghurt also as he likes.*

*Then after converting the milk into yoghurt, still it remains. It is stocked. So when there is sufficient old yoghurt, they churn it and then butter comes out. So they take the butter and the water separated from the butter, that is called whey. Whey yes. So they... Instead of dhal they use this whey for chapattis. It will be very healthy and tasty.*

Śrīla Prabhupāda conv. N. Orleans August 1 1975

A practical point of consideration is that boiled milk keeps longer than unboiled milk even when refrigerated.

### **Cleaning**

After milking your cows, one should finish off by ensuring that all milking paraphernalia is scrupulously clean.

## Mother Yaśodā's or Pūtanā's Milk?

*Questions and Answers  
Given by Balabhadra dās*

**How is it possible to have milk and bulls if every year every cow must have a calf? I think that to sell some of the calves is compulsory.....**

Selling the calves is a very dangerous concept and in this age of Kali Yuga. This almost inevitably means that the animal is killed. Even in India, which is a country perceived to be a cow protection country since Vedic times, the killing of the cows and bulls is steadily rising in the country as well as thousands of animals being smuggled out of the country daily for slaughter. In Śrīmad-Bhāgavatam we are shown how Kali Yuga is ushered in with the śūdra, dressed as a king, beating the cow and bull. This was unheard of in those times.

If you want to do a commercial dairy which requires that a certain quota of milk be met each day throughout the year then your problem of too many cows and bulls becomes evident quickly. In this system the cow is bred and gives birth and then is milked for 305 days. She is again bred after 2 heat cycles which is about 60 days after birthing. At the end of 305 days milking, she is dried off and allowed to rest for the last 2 months of her pregnancy. She again calves and is back into the milking parlor to again help the farmer meet his milk quota for economic gain.

The problem then becomes what to do with the offspring. If you are milking 10 cows and having 10 babies a year, the first year alone you have doubled the size of your herd. In 10 years you will have possibly 110 animals depending on the mortality rate. Let's say that 10 died in the first 10 years of your operation, you would still have 100 animals. The average life span of an animal is

between 15 and 18 years with some living over 20 years. So, in reality your herd is still a young to middle aged herd with the old age factor still to be become a reality in another 5 to 6 years.

This is the simple numbers of breeding every year for milk for profit if you don't sell or kill or give your animals away.

**Is it correct to take the milk from non-devotee farms where slaughtering bulls is a daily affair? Isn't it better to have cows protected, have our milk, and then try to find out someone not so much violent to whom we can sell our calves? I feel that if this is not better it would be perhaps equal to buy milk at the supermarket.**

To take milk from the non-devotee farms is like supporting the slaughterhouse industry. Their commercial dairy is only to exploit the innocent cows and then when they don't produce enough milk to pay for their feed, they are sent to slaughter. Many devotees use the argument of "ajanya sukriti" and say the cows are benefited by the milk being offered to the Deities. This may be true, but it becomes an excuse for not establishing rural farm (village) communities to show the example. Śrīla Prabhupāda said that example is better than precept. What the world needs to see is a multi-faceted holistic Kṛṣṇa Consciousness farm (village) community in living color. Multi-faceted means that all of the byproducts of the cow/bull are utilized fully; milk, urine, dung, ox power and overall religious benefits. Each one of these has various expansions of its own, for instance; dung can be rendered into methane gas, medicines, incense, fertilizer, dried and burned for cooking and then the ashes from the cooking can be used as potash in gardening; used as a wall covering, pot cleaner; used in Deity worship, etc.

Why can't we take care of our own cows? In your statement you are propounding the same consciousness that has prevailed amongst many

of the devotees for years. We want to drink milk but we don't want to take care of the cows and their offspring. If a mother and father have more children than they can financially, emotionally, and spiritually maintain, they are considered irresponsible. Because we want to drink milk we are breeding cows to provide milk. Quickly we have more cows than we can maintain and we think of selling them or giving them away. This is totally irresponsible.

It may appear that we are protecting cows and providing milk for our communities. However cow protection doesn't mean only milk production. The cow is the embodiment of the religious principles and her legs are the 4 pillars of religious life. In Kali Yuga only 1 leg (pillar of religious life) of the cow is left standing, Truthfulness. As Kali Yuga progresses so do the attacks on the cows and bulls and what they represent spiritually. So when you think to sell the cows and their offspring you are helping the advancement of Kali Yuga and the attack on the last remaining leg of the religious principles, Truthfulness.

**I would be interested in starting a little program of cow protection to farm a small part of our land and to learn and then transmit for future devotees this important practice. Please advise.**

Śrīla Prabhupāda has explained to us that to start something is easy. To break something is also easy. The difficult part is the maintaining what you have started in a responsible fashion. Here are some points to remember.

1) If you are going to keep cows please research how many animals your land can maintain and don't go over that number, there is no selling of animals.

2) Keep cows for the protection of the religious principles and to provide milk for the Deities. Offering protected cow's milk to Lord Kṛṣṇa is like offering Mother Yaśodā's milk. Offering milk

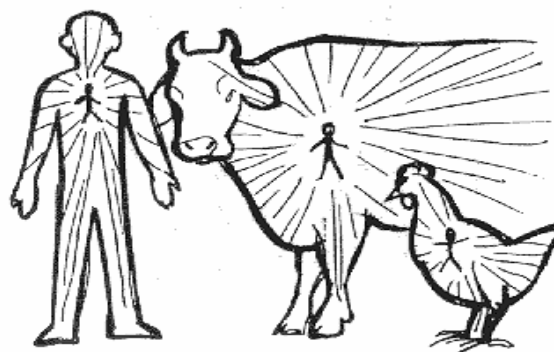
from cows raised with the commercial consciousness of the slaughterhouse is like offering milk from Pūtanā.

3) Use the bulls in the service of Lord Kṛṣṇa. Years ago in India the main consideration for breeding was to provide good bullocks so that the agricultural lifestyle of the country could be maintained. Even today India is still 80% agrarian, but the tractor is now quite common. In some places the tractor is more common than the bullocks. The question then arises what becomes of the bull calves? The answer is that many are killed.

4) Use all the by products of the cows to show holistic village lifestyle based on the relationship of Cow/Man/Land in the service to Lord Kṛṣṇa.

These topics will be expanded in future pamphlets. Although the above questions were asked with the intent to a hands-on participation in cow protection, there are other ways we can all take responsible, compassionate action.

- 1) Limit your milk and milk product consumption.
- 2) Support a cow protection center ( for every gallon of milk you buy from the slaughterhouse industry, give \$1 to cow protection).
- 3) Help devotees with agricultural skills become established on land where they can protect cows so that there is more availability of milk from protected cows.



## Breeding

*From letters and e-mail correspondence  
ISCOWP News Spring 1998*

We feel that misunderstanding of breeding topics is very much at the foundation of cow neglect, abuse, and malnutrition. We have therefore printed the following contributions on different aspects of breeding.

Mādhava Gosh dās (New Vr̥ndāvana, USA)  
(gourdmad@ovnet.com)

### Cow Numbers

Every cow that is bred during a year, means you will have 10 cows in your herd after ten years (obviously just a rule of thumb, but we need some guidelines). If you breed 5 cows in a year, you will be carrying 50 cows in your herd when the numbers stabilize. If you are starting new, the numbers will rise. If you are starting with 100 animals already, the number would diminish, but allow about ten years for the number to stabilize.

If the carrying capacity of the land is 6 acres per cow, then breeding 5 cows a year would mean you would need  $5 \text{ (calves)} \times 10 \text{ (average life expectancy)} \times 6 \text{ (carrying capacity of the land)} = 300$  acres to handle them.

### Carrying Capacity of the Land

One thing that varies greatly in particular time and circumstances is the carrying capacity of the land. Śrīla Prabhupāda states that one cow on one acre works. I am sure that that is true in a tropical area with good rainfall and fertile, well maintained soils, but it takes more in West Virginia. We have to grow forage and store it for the winter, and much of the land is too steep to be used even for grazing. 10 acres for each cow is a more realistic ratio here. Even that changes if you happen to have all bottom land, in which case it takes much less, but you do have to look at the specific area which is best determined by asking local generational farmers. Potential carrying

capacity of the land may be dramatically reduced by lack of soil maintenance. In NV, the soils are naturally acidic. If lime is not applied, the carrying capacity is reduced. Overgrazed land will produce less than land that is rotated.

### Breed Selection

Breed selection is a very important consideration. A modern Holstein cow will produce a large amount of milk given large inputs of high energy and protein feeds, but production falls off dramatically after a year. A Jersey cow will produce less, but will do it on lower quality feed over a longer period of time. We have experience in NV of a Jersey cow producing over 4 liters of milk a day even after 5 years, all from just one calf.

Cows bred for modern dairy operations are not the best for cow protection programs. Choice of breeds is highly subjective and can be emotional at times, but I would say that everybody should avoid Holsteins. Get cows traditional used by homesteaders in the local area. You may have to go to the old-timers, as the local breed may not even be found in the local area. If you already have Holsteins, start crossing in another breed. After a few generations, you can breed away from the Holstein towards the more desirable breed. Select a breed not just based on milk production but on docility, strength, and endurance of the oxen produced.

### Calf Mortality Rate

A calf mortality rate of 5% is considered excellent. 10% mortality rate, after one year, is borderline acceptable. If you count the number of cows that are milking and how long they have been milking, then count the calves that were born from these cows, you can interpolate mortality numbers. A rate of mortality exceeding 10% means there needs to be more attention given to that aspect.

The two most important factors are personal attention so small problems are caught before they become big problems, and access to



sunshine. In one barn at NV, the calves were in pens with south facing windows. An addition was built on the south side, blocking the sunshine. The mortality rate rose noticeably. In the Brahma-saṁhitā, the sun is considered Kṛṣṇa's eye. He's watching. The sun has disinfecting qualities.

### **No Large Dairy**

The attempt by Bhaktipada to finance the cow program by selling milk was a huge disaster, although at first it was quite successful. It works the first few years, because the expanding dairy with lots of milk sales provides an income. But the calves from those freshened cows have to be fed for not just the duration of the period the cow is milked, generally about one year, but for a decade more after that, when the income from the milk is nothing but a memory.

### **Cow Endowment**

I think no cow should be bred unless there is a plan for the maintenance of the calf throughout its life. This means an endowment, a portion of which could be in the form of unencumbered land with restrictions on sale and/or sale with retention of grazing rights. (Land could be bought and then given to, or sold to, a Vaiśya (farmer) with the condition that for the first 10-12 years, the grazing rights would be maintained for the benefit of the calf, or others, should it die prematurely). The balance of the endowment should be in an irrevocable trust, the proceeds of which would be used for maintenance.

The problem with depending on cash flow from donors is that all it takes is a scandal in the leadership, and it dries right up. Again, see New Vrindavan for an example of this.

### **Labangalatika dāsī (Raigad, India)**

#### **Cross Breeding**

Now after a lot of soul searching we have come to the decision to breed out the Jerseys from our herd as they are not suitable for Indian conditions. They are very affectionate and gentle but without a lot of personal care they can not survive here

like the other Indian cows and bulls. They need a lot of green fodder and at least 3 times as much dry fodder as the others and water consumption. It's alright now that we are here and can take care of their needs, but they cannot go out all day, day after day, in the dry season to forage and stay healthy. In ten years time I am not likely to be able to do much here and so exotic bulls and cows may suffer. So, we have to think of the future. They are much more susceptible to disease. They could not work for local farmers and manage under their care. Of course the cows we have now will always be here their whole life, but I'm thinking it is not fair to go on producing exotic breeds. So we have decided our Jersey bulls will be oxen and we will import a good breed of Indian bull, such as Tharparkar, to improve the breed of the Indian herd. The Jersey cow's bull calves will be oxen and not reproduce, and the heifers will be bred again to this bull. Gradually the Jersey strain will be absorbed. We have very few workers and the Jerseys need a lot of care; bathing twice daily and the bulls nearly daily. Our Indian animals never sit in their dung.

The introduction of crossbred animals from the west into India has been very unfortunate. The exotic bull calves born were found useless by farmers for working conditions and so slaughter houses have sprung up as these calves were found to be a source of revenue for exporting beef to Arab countries with the blessings of the politicians.

I don't want to be a party to producing exotic bulls, at first unintentionally, but now I know. All the ones we have will be fully protected here.

### **Laxmī Narain Modi's & Down to Earth Publication's Opinion: (Delhi, India) Cross Breeding**

In a letter to an Indian government official, Laxmī Narain Modi (Trustee of the Bharitya Cattle Association) wrote the following:

We have been presenting the various problems caused due to extensive exotic breeding resulting in loss of our pure line of Bharitya

breeds, but of no avail; even though loss of one breed means a loss of over \$100 billion. Now your attention is drawn to cover story in Down to Earth publication of September 15, 1997. A few excerpts are quoted below.

1) Ignorance is bliss indeed, but only where it is a folly to be wise. In the Indian context, when it comes to crossbreeding programs, those in charge cannot afford to even pretend to be ignorant of the fallout of these programs.

2) Cross breeding, specifically that of cattle was done in India in an attempt to increase milk yields, and in the case of poultry, to increase bird size and decrease maturity time. To a certain extent the programs were successful.

3) Then things began to go wrong. Farmers resorted to their own home breeding programs. Bulls of exotic breeds were introduced to the local cows so that the offspring would yield more milk and as a result earn more money for the farmer. But the farmers were in for a shock.

4) The new generation of half breeds were a surly dissatisfied lot. They ate more and demanded more in terms of fundamental conveniences than their less fortunate native counterparts.

5) It was true that crossbred cows produced more milk but they also needed more trips to the local vet as they were less resistant to the disease prevailing in the country.

6) They were also more likely to stop producing more milk if not given a better diet, better in quality and more in quantity.

7) Unfortunately by now the natives had been rounded up and herded into small isolated corners of the country.

8) By now realization is beginning to set in amongst farmers and dairy owners that crossbreeds may produce more but these high outputs are subject to high inputs, which the Indian farmer can ill afford.

9) The scientific bureaucracy would also be well advised to come up with indigenous

livestock improvement programs where local breeds could be identified and breeding of these pursued for increase milk yields.

10) Superior livestock is being imported by Australia and some countries in Africa to improve the cattle stock.

11) What is surprising, however, is that the seed for this stock comes from Indian breeds like the Sahiwal Cow.

12) While Australians are pursuing a program to make the cattle hardier and help their livestock adapt to a hotter climate, in India it seems we are doing exactly the reverse.

13) Will we have to import from another nation, what was once part of our heritage, after having destroyed it at home?

## Discussions of Breeds

### *ISCOWP NEWS Volume 10 Issue 1*

#### **Cows in Sub Tropical Zones**

From: Samba.SDG@bbt.se

To: Cow@bbt.se

Subject: Cows in sub tropical zones.

Date: Saturday, August 28, 1999 3:51 AM

Can anyone recommend the best breeds (European or Indian) for health, bull calf trainability and milk production in tropical to sub tropical zones?

Sāmba dās Mauritius

From: WWW: Rohita (Dās) ACBSP

To: Cow@bbt.se

Subject: Cows in sub tropical zones.

Date: Monday, August 30, 1999 2:04 PM

European cows (B. Taurus) come from cold climates although there are breeds that are adapted to the hotter climes, i.e. West Africa. But when you get into these areas there are

localized diseases which many outside breeds have little resistance to. In West Africa it is trypanosomiasis, a group of diseases more commonly called sleeping sickness. Jerseys and other European breeds taken to West Africa usually succumb to these diseases. However there are local breeds that are also Taurean that are resistant to these illness.

1. So, the limiting factor is which diseases, if any, are very common in the area in question.
2. The next question is whether there are native breeds in the area ("Native" meaning a breed that has been in the locality for 4 or 5 hundred years). It is always better to choose from these animals than importing into the area another breed that usually is not adapted to local conditions.
3. Do the local disease resistant breeds produce enough milk for your needs? Are you interested in producing enough for yourself and a few friends or are you wanting to support the family on many milk sales? For example one trypano-some-tolerant breed is the N'Dama of Guinea. They produce 2 to 3 liters per day (just under a gallon) for about eight months. For a family this is alright but commercially not so good.

The Americas and Australia are two large geographical areas that do not have local breeds. Cows are recent arrivals so the above does not matter as much because there is no breed that is really adapted. Except in America, the Longhorn and the Piney Woods. Both these breeds are about 500 years old and well adapted to the southern part of the USA. They however are not seen as dairy animals though they do produce milk in similar quantities to the N'Dama mentioned above. It should also be noted that most Americans are use to store bought milk which is mainly from Holsteins (Freisland) which is low in butter fat (3.64%) and proteins (3.9%). The above mentioned breeds,

N'Dama, Longhorn and Piney Woods all produce milk that is much higher in fats.

I would advise that you look on Mauritius for your cows. Talk to the locals to find out who has the best cows in your area. Then get from him. Most likely they are Saŋga-type animals from East Africa probably with some Indian blood. They are probably not large producers, but by being selective in your foundation stock and using improved farming methods to increase the quality of your feed and fertility of the land, great improvements can be made over local production. When buying animals you should engage the skill of an experienced cowherd to guide your choice.

Rohita dās Mississippi, USA

From: COM: Nistula (dās) ACBSP (Sri Pundarik Dhām - Bangladesh)

To: Cow@bbt.se

Subject: Re: Cows in sub tropical zones.

Date: Monday, August 30, 1999 2:04 PM

Samba's problem is that before the colonial era, when France and England fought over possession of Mauritius, it was a small uninhabited island and the only heritage breeds were some now extinct birds.

### Milking Breeds

From: Ann Fletcher

Sent: 02 December 1999 02:24

Subject: Re: milking duration.

Interesting to see your comments on preference for the Shorthorn breed. After years of trial and error, we have also concluded at New Varshan (NZ) when we start breeding again, we will bring the Shorthorn back in. Good milk supply, excellent working bullocks and their average age is 15 years.

## THE "HOW TO" OF COW PROTECTION

From: Mādhava Gosh (dās) ACBSP (New Vrindavan - USA)  
Sent: 02 December 1999 05:43  
Subject: Re: milking duration.

It's not meant that there aren't possibly even better heritage breeds for some one to think about, but the Milking Shorthorn seems to one Jerseys are great milkers, but the bulls are reputed to be extra vicious, and our own experience with a Jersey bull confirmed that (named Bu, rest his soul). The 2 oxen I did train (oh so long ago) were Jerseys, and they were mellow enough, but the Shorthorn are reputed to make better oxen.

From: "Ann Fletcher" <ann@akn.quik.co.nz>  
To: "Mark Middle Mountain"  
"COM: Cow (Protection and related issues)"  
<Cow@bbt.se>  
Date: Fri, 3 Dec 99 12:05 +1300  
Subject: Re: preferential breeding.

This is how I envisioned cow com to be. Pooling of info and experiences for everyone's benefit. I agree re jersey bulls. The bulls tend to have a temper streak in them and jersey bullocks are too mellow and lazy. The Friesian bullocks are ok but very big on the land. The Shorthorns seem to be a little fiery but great workers and their milk, although not as creamy as the jerseys or as voluminous as the Fresians, seem to be a good blend of both qualities. Regards,  
Ananta Kṛṣṇa dāśī

*(Editors Note: Our favorite breed is Brown Swiss. Our first team, Vraja and Gītā, are Brown Swiss. They are capable of doing heavy work and possess a good temperament. The female of the breed produce an average amount of milk with a high butterfat content. They grow very large, Vraja and Gītā are about a 2,200 pounds each.)*

### Milking Duration

From: Ann Fletcher  
Sent: 29 November 1999 23:2  
Subject: Milking Duration

Dear Niscala Prabhu,  
Re your math's regarding milking of cows. We had a great system at New Varshan and you may remember when I was milking, grhastas would leave their containers out. I had a monthly account running. I kept detailed daily records of the milkers analyzing effects on production from weather, feed scraps, seasons etc. The milkers all had covers on in the winter and I feel we looked after them well. However, none of them ever milked for longer than 1 1/2 years to any significant amount. My experience is with Friesians, Jerseys and Shorthorns. What breed are you basing your math's on for cows to be milking for 4 years continuously without calving again? This math's needs to be worked on "the norm" rather than one extreme case. ( And how many liters daily in the fourth year?) When choosing a breed, consideration also needs to be looked at the average age that a breed lives for, the suitability of the bullocks and conditions of the property. Please check your source of information for your calculations and let me know of the Surabhi breed that milks for 4 years.  
Ananta Kṛṣṇa dāśī

From: Mādhava Gosh (dās) ACBSP (New Vrindavan - USA)  
Sent: 30 November 1999 01:18  
Subject: Re: milking duration.

I have known several Jerseys to milk for years without coming fresh yearly. They gave 1 to 1.5 gallons daily, depending on season and feed.

Balabhadrā has a cow that looks just like a Holstein, although smaller than the common agribusiness size. He is getting even from this Holstein at least one half gallon a day, and it has

been a long time since she came fresh, more than a year. The gene pool of modern Holessteins has definitely been narrowed to large size and large production. She is a bit of an anomaly and has been milking for 4 years since she was calved.

To keep high yields, it is necessary to freshen cows yearly but for simple homesteading, the heritage breeds will give good milk for a long time. Certainly not on a competitive level, but adequate for a householder with just a couple of yogurt customers and his own family.

From: WWW: Rohita (dās) ACBSP (New Talavan MS - USA)  
Sent: 30 November 1999 15:09  
Subject: Re: milking duration.

I have milked Freisland (Holstein), Jersey, Guernsey, Swiss and crosses of those with Gyr/Kankrej. Under feeding conditions ranging from excellent to poor, temperature range of 20' 110°F, I have never been able to get production of greater than 1 gallon (~3 liters) past the two year mark.

From: Noelene Hawkins  
Sent: 30 November 1999 02:35  
Subject: Re: milking duration.

*Ananta Kṛṣṇa wrote: The milkers all had covers on in the winter and I feel we looked after them well. However, none of them ever milked for longer than 1 1/2 years to any significant amount.*

Were your milking cows getting high-grade feed at milking time? Our cows here regularly give milk for 3-4 years. No doubt at the end it is only a small amount. I think I remember the milking lady saying only a couple of liters a day. My point is that even a couple of litters a day is enough for with 8 families, then if they are bred at one per drinking! If you have 4 cows milking on a

farm with 8 families, then if they are bred at one per year, then they are all at different levels of milk production. But the TOTAL should be enough for milk consumption AND ghee production, etc.

From: Hare Kṛṣṇa dāsī (Brunswick, Maine - USA) Sent: 30 November 1999 19:59  
Subject: Re: milking duration.

I remember that when Mother Kaulini at Gitānagarī was milking Viśākhā (Brown Swiss) Kaulini was still getting 3 gallons a day from Viśākhā after 3 years. Unusual, but it shows that with good feeding, good care, and suitable climate, it is possible. I was still getting at least 1 gallon a day from Premā Vivahla (also Brown Swiss) after 2 years. That's probably more normal.

I think Niscala is touching on an important point here. If among, for example, 4 families, each family breeds its cow in a different year, that would provide different qualities of milk which they could distribute among themselves. Perhaps the freshest cow could provide the hot milk, and the one currently on the longest lactation could provide milk for curd. Cooperation among the families with regard to the breeding schedule could make things work very well.

From: Śyāmasundara (dās) (Bhaktivedanta Manor - UK) Sent: 01 December 1999 19:11  
Subject: Milking duration

At Bhaktivedanta Manor we are currently milking 7 cows. All at different stages of lactation. One cow which we have bred again and will calf in 2 months has just been dried off (last day today). We were milking her, her calf, her calf's calf has impregnated two cows. A total milking time of up to 6 years. Before we started drying her off she was giving 3.5-4 liters of milk each day. She is a Friesian.

We recently lost an old 18 yr old cow who had milked for 6 years. On her last milking year she was giving 3 liters per day. She was a Friesian. Another cow (a shorthorn) is still milking after 4 years. She is giving 4 liters per day. We had a cow that milked for 8 years (she never even had a calf although was impregnated) giving 5 liters per day in her last year. She was a Friesian. My limited experience has definitely shown that the vast majority of cows can give milk for 4 years quite easily. We do however have a cow (half Belgian Blue) that started giving a small yield and dried off herself within 3 years.

## Homeopathic Cures for Cow Diseases

ISCOWP news Volume 11 Issue 2

Excerpts from a speech presented to the Indian government by Mrs. Rosalie Malik (Labangalatika dāsī), B-6, Parijat, Raikar Park, Roha, Dist.: Raigad (M.S.) 402-109

My husband and I have a 30-acre farm near Roha in Maharashtra growing mango trees, cashew, guava, sitaphal, coconut, bamboo and others. We keep now 26 cows and bulls and we use slurry from the Bio Gas plant together with straw waste and leaf-mulch as fertilizer, and diluted cow urine as a pest repellent spray.

We are of course interested in natural medicine for our cows and we have learned a few Āyurvedic remedies, but all herbs are not readily available, they are becoming scarce and therefore costly because of loss of forest area. Even garlic is costly which is most useful in treatment for cattle.

I took up homeopathy, as I knew a little about it for treating the family. Although it may not be considered an Indian tradition yet Mahatma Gandhi recognized that homeopathy was safe, affordable and very effective treatment for the people of India.

For cattle practice I discovered a book: "Treatment of Cattle by Homeopathy" by George Mcleod, published in India by: B.Jain Publishers Pvt. Ltd. 1921, Chuna Mandi. 10th St. Paharganj, New Delhi-110055  
Ph: 23670430, 23670572, 23683200, 23683300  
Fax : +91-11-23610471 & 23683400  
E.mail: info@bjainbooks.com  
visit us at : www.bjainbooks.com

There is also another book: "Therapeutics of Veterinary Homeopathy" by B.P. Madreswar, an Indian veterinary surgeon and is based on George Mcleod's book with acknowledgment of course. However, there are some mistakes, which I can inform you of if you wish. But it is still a very useful book as it covers diseases better known here in India.

Homeopathy has a different approach from allopathy, not to destroy the bacteria but to treat the patient's reaction to the illness. Allopathy suppresses symptoms but homeopathy strengthens immunity. Homeopathy has no side effects.

In our area the vet is not easily available, and besides we do not like the use of streptopenicillin, sulfa drugs and vaccines that have heavy side effects and do long term damage to the animal that may be worse than the disease itself. And the cows hate such treatment and may also become your enemy after being all tied up and given a needle by force.

The medicines are all natural, made from plants, animals or mineral sources. The mother tincture is diluted in water and potentized by vigorous shaking or by bringing the bottle down on a soft surface a certain number of times. Then again it is further diluted and succussed and so on till the required potency is reached. The more this is done, the more powerful the medicine.

Homeopathy has very good preventive medicines, called nosodes, or oral vaccines made from actual diseased material, rendered harmless by potentizing, but highly effective in preventing disease and also in curing it if necessary. Many poisonous plants such as Belladonna and also snake venoms are rendered harmless by potentizing and are extremely useful in treating serious diseases, with symptoms similar to those caused by the snake bite itself, like Black Water Fever, hemorrhages and are also antidotes for the snake bite itself.

You take one drop of the original substance, a virus or poison and add 99 drops of water or grain alcohol, shake it hard against a soft firm surface (the bottle) again take one drop of that and dilute with 99 more drops water or grain alcohol and shake it. Do this 30 times at least for it to be harmless. You can go up to 200 C or 1M & 1000 times or more for higher potency depending on need. So it becomes harm-less but by shaking or "Sucussion" it becomes very potent ...highly energized ..It is actually atomic energy. The medicine is energy pattern and whatever symptoms of illness the original substance produced on the body this diluted and potentized medicine will cure. It does amazingly. So in this way the Foot and Mouth virus can be used to prevent and cure and since this virus seems to mutate, it is good to get the exact one at the time. I don't know any manufacturers...I got no response when I tried to find out, but one can do at home without much trouble. I told this to an agency in Gujarat who are trying to help animals there with Foot and Mouth epidemic by trying natural medicines. So let's see if they take it up.

Administration for cows I do by filling a 1 dram bottle with sugar pills size 30 and putting 10 to 12 drops of liquid medicine in it. This is one dose. And then I give it by mouth. It is immediately absorbed into the system by the saliva. It doesn't have to be swallowed and digested. The dose can also be given in half a cup of water by hollow bamboo or horn, but I'm not familiar with that.

Most of our cows and especially calves are used to taking medicine in this way and are eager to take sugar pills. In fact you have to hold onto the bottle tightly. One two year old bull is always coming up to me looking for some medicine on sugar pills which he once had when he was a few months old.

A 30 ml bottle costs about 26 rupees and for cow doses there are 60, so for them it works out about 50 paise a dose. Homeopathy is relatively inexpensive. For humans it is much cheaper of course as one dose would be about 4 pills only out of a 1 dram bottle. You have to keep the medicine away from strong smells like garlic, peppermint, carbolic soap and so on and never touch it with the hands or the potency will be lost.

**The following are some diseases that I have cured by Homeopathy.**

#### **BLOODY MILK:**

Our cow Haripriya soon after delivery suddenly gave bright red blood from one teat instead of milk. It was shocking to me, but I was glad I had the homeopathic medicine at home IPECAC 30C. I gave her three times a day for four days for full recovery. The very next day the blood had changed to pinkish milk.

**DIARRHEA:** A new calf had an onset of liquid yellow diarrhea after drinking too much milk from her mother. It was the first calf for the mother and she was nervous about getting milked. In the confusion the calf drank too much. We gave 6 doses of Aconite (6C) 1- 1/2 hours apart according to the prescription in the book, and she completely recovered. ACONITE is also good for treating shock.

For calf scours I have found that ARSENIC Alb 200C works well given 5 doses every 2 hours for water diarrhea. MERCURIUS COR 200C 4 times a day for two days is good for bloody dysentery. The two can be combined.

**EYE DISEASE:** After I had been away for a couple of weeks, I found on return an epidemic of eye disease in our herd. It starts by watery eyes then turns into red swollen eyes and pus discharge, and finally the eye turns white with corneal ulceration. One bull had reached this stage and his eye had become white. I followed the treatment in George Mcleod's book exactly. The early watery eye stage cleared up in a few days with Kali Hydroicum 200. 3 times a day for four days. To the bull, Gaura, I gave Argentum Nit 30C, 3 times a day for a week to clear up discharge and inflammation. And I gave him SILICEA 200C once a day for a week and the white ulceration disappeared like magic. SILICEA causes reabsorption of scar tissue. In a week he became completely normal.

**MASTITIS:** I don't have experience with our cows, but one cow did have one quarter of her udder swollen for some reason and I found PHYTOLOCCA very helpful, 4 doses every 3 hours. There are medicines according to the specific symptoms, for example, BELLADONNA is for acute mastitis, swollen red and painful udder, and cow feeling hot.

**FOOT and MOUTH Disease:** It is going on in the next two villages but doesn't seem to be very severe, just a few have affected feet. They roam everywhere and the vet did not come and it was said there was no vaccine available anyway. The boy who comes every day to work for us, his bull was affected so I gave him a weeks treatment of MERC SOL 200C and NATRUM MUR 200C, 3 times a day each, and I also gave him ointment from Indian Herbs (Himax) to put on his foot. He is fully recovered. For our animals I am giving weekly one dose of each, MERC SOL 30C, ARSENIC ALB30C and VARIOLINUM 30C. In 's book he suggests to combine them, but I was advised against combining such different medicines at once. So I gave separately at intervals. For mouth sores BORAX 30C is a remedy. So far

our herd is all right. We also wash their feet in salt water.

**COW POX:** Cow Pox can be treated with Variolinum 30 C one dose daily for three days will cut short the infection and help prevent secondary infection from the pustules which are the worst part of it. If the pustules look like craters and have yellowish base and discharge then Kali Bich 30 should be given also twice daily for 5 days. CUPRUM MET 6C can be given for pox like eruptions if there are muscular cramps and spasms or diarrhea. ANTIMONIUM CRUD 6C can be given for pustular lesions especially if skin is dry and there is indigestion. RAUNCULUS BULBOSUS is especially good for the pustules on the udder. Any one of these medicines, the most applicable can be given along with the VARIOLIN. Also the VARIOLIN can be given as a preventative, a dose for each cow once a month for 3 months. The dose is 15 drops of liquid either in water or on sugar globules available from the Homeopathic pharmacies.

## The Death of a Cow: What To Do?

From: COM: <Radhikatma.JPS@com.bbt.se>  
To: <ISCOWP@earthlink.net>  
Date: Sunday, March 22, 1998 6:30 PM Subject: dying and dead cows

Could you please advise me what is the best way to look after dying cows, and what is the authorized way of dealing with them once they have died?

From: <iscowp@earthlink.net>  
To: COM: <Radhikatma.JPS@com.bbt.se>; cow@com.bbt.se  
Subject: Re: dying and dead cows  
Date: Monday, March 23, 1998 8:57 PM  
First of all if you have any facility for a tape recorder that has continuous play feature set it up so that the dying animal can have the benefit of hearing the chanting of the holy name of Kṛṣṇa.



If there are times during the day or night when devotees can actually be present and chant, this is very nice.

If the animal is still eating and drinking water then these items should be made available on a regular basis. When an animal has a broken hip or other such ailment that initially does not affect the eating and drinking, then food and water should be given. Gradually over the period of time they will stop eating and drinking and then it is just a matter of time till the bodily functions stop.

Keep the area around the animal clean of manure and urine soaked bedding. This may require the rolling over of the animal which will require several people. Always do this in such a way as to cause as little inconvenience to the animal as possible. Be careful of the head in the rolling process. You may need a person just to control the head so it doesn't get in a weird position. If the animal is down for some time they might start to develop sores like bed sores. They should be kept clean. Herbal salve or just herbs themselves should be used to keep them from spreading, flies from laying eggs in them, and maggots developing. In other words treat the dying cows as though they were a human dying. Give all respect and give them a situation of cleanliness and comfort. If the weather is severe give them shelter from the elements as much as possible. If they are out in a field and you can't get them to a sheltered place you might need to put a tarp or tent over them to give them shelter.

As far as what you can and cannot do with the bodies after the time of death, you should check with your local authorities (Municipalities) as to the laws for the disposal of large farm animals. A lot of places it is against the law to bury them. In most towns there is usually a service available for hauling away the bodies. When I was in Vrindavan they would contact the "MUCHIES" who would come and take the bodies away. They were meat eaters and would also skin the

animals and tan the hides for shoes and other things.

I hope this has been helpful to you. Anybody else with information on these topics?

Balabhadra dās

From: WWW: Rohita (Dās) ACBSP (New Talavan MS - USA) <talavan@com.org>

To: <Cow@com.bbt.se>;

<Radhikatma.JPS@com.bbt.se>

Subject: Re: dying and dead cows

Date: Tuesday, March 24, 1998 1:20 PM

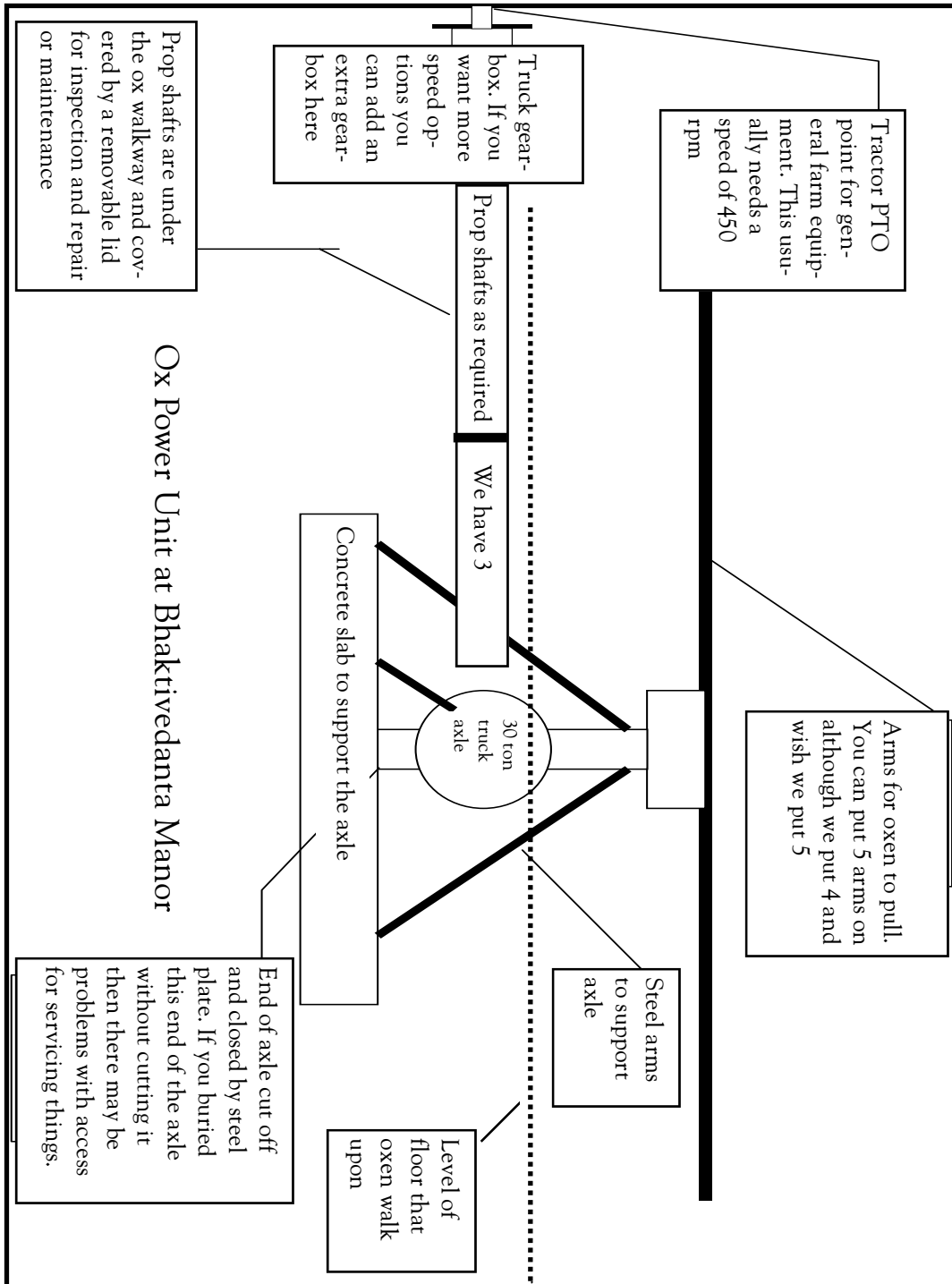
In addition to Balabhadra's comments I would like to add one can pray to the Lord to please minimize the stress the cows are feeling. Your prayers have potency. You also must remember that having rendered service they have a special place in Krishna's heart and now they are preparing to leave this world to go to a place that would be the most beneficial for them to regain their proper constitutional position as Krishna's eternal servants. Do not lament their departure but feel joy that they are advancing toward Krishna.

When they are gone, just like when other devotees leave, to sing the song to the departed Vaisnavas, *Ye anilo prema dhana (Saparsada Gaura Viraha Vilapa)*, meditate on the meaning of this song.  
ys, Rohita dasa



# OX POWER

## Ox Power Units ISCOWP News Volume 12 Issue 3



From: Śyāmasundara (dās) (Bhaktivedanta Manor - UK) <Syamasundara@pamho.net>  
 To: <gourdmad@ovnet.com>; <npetroff@bowdoin.edu>; <Cow@pamho.net>  
 Subject: Re: Specific help for CSA - ox power unit  
 Date: Tuesday, July 16, 2002 1:21 AM

Here at Bhaktivedanta Manor we have an ox power unit made from a truck axle, prop shafts and gear boxes. My feeling is that it is of such a simple design that it could very easily be replicated.

Having seen the Gītā-nagarī ox power unit my perception is that such a unit would require too specialized engineering to be viable in a lot of cases.

The essential parts of the spare parts ox power unit are all available globally and thus easy to construct.

We use our power unit for rolling grains as it has the parts of a Tractor Power Take Off then whatever a static tractor could power this unit can power (providing you put enough oxen on it); wood saw, oil press, flour mill, vegetable chopper, chaff cutter, washing machine, water pump, air compressor etc...

We have 4 arms off the power unit and generally only use 4 single oxen, however it would be better to follow the Gītā-nagarī model in this regard and put 5 arms on the power unit. This means you can have 5 teams of 2 (10 oxen) on the unit which will not only look amazing but also gives valuable work for the oxen.

From: <npetroff@bowdoin.edu>  
 To: <Cow@pamho.net>

Cc: <gourdmad@ovnet.com>  
 Subject: Re: Specific help for CSA - ox power unit  
 Date: Tuesday, July 16, 2002 9:24 AM

Even though the Gītā-nagarī unit has 5 arms, I believe that sometimes they would run it with fewer than 5 teams. Oh, now I remember, they used single yokes instead of double yokes -- so it was only 1 ox per arm -- otherwise the outside ox would have to run 15% faster than the inner ox.

Even still, I think sometimes they might use fewer than 5 oxen -- Balabhadra?

Hare Kṛṣṇa dāsī

From: <Syamasundara@pamho.net>  
 To: <npetroff@bowdoin.edu>; <Cow@pamho.net>  
 Subject: Re: Specific help for CSA - ox power unit  
 Date: Wednesday, July 17, 2002 1:44 AM

When I visited Balabhadra Prabhu and his wife Chāyadevī they showed me a video of the Gītānagarī ox power unit being used. In that video they were cutting wood with 5 oxen. One could hear the saw slowing down through the wood which probably didn't matter for the thickness of wood being cut.

If the saw was going through very thick wood or was cutting planks then it would seem that there would have to be the full team of 5 x 2. It seems that there will be oxen who walk at different speeds in any case. Certainly here at BM our two teams both walk at different paces. Perhaps the teams should be positioned according to their natural walking speed. Anybody remember 'Ben Hur' the slower ox on the inside and faster on the outside.

## THE "HOW TO" OF COW PROTECTION

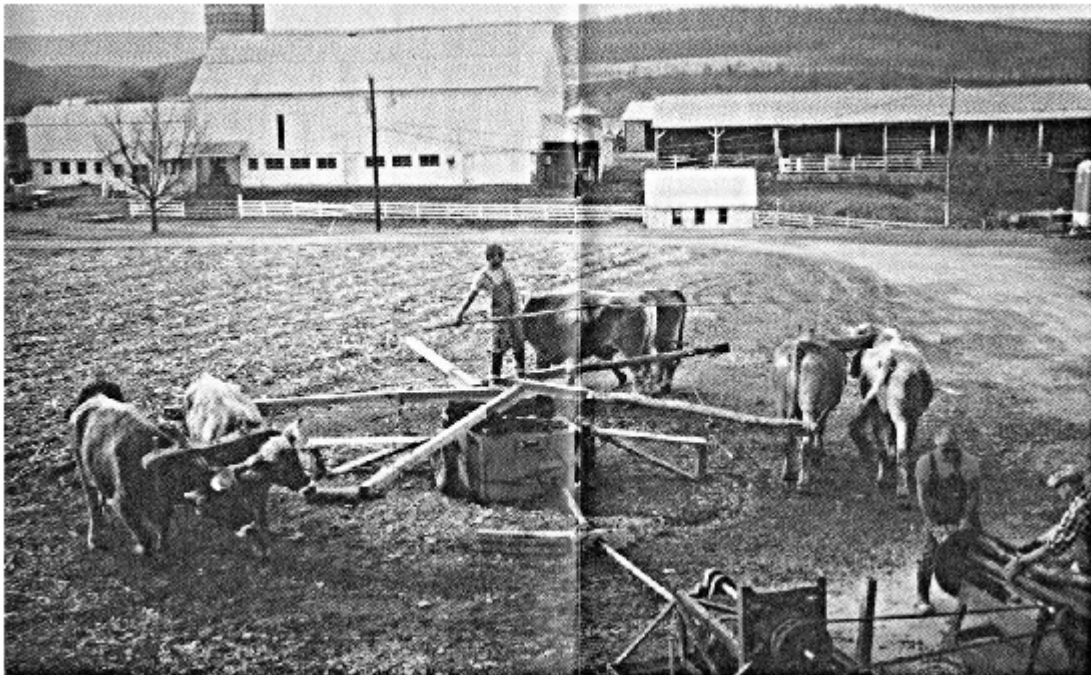
From: <npetroff@bowdoin.edu>  
To: <Cow@pamho.net>  
Subject: Re: Specific help for CSA -  
ox power unit  
Date: Wednesday, July 17, 2002 7:06 AM

If you will refer to Paramānanda and Vaiṣṇava's Gītā-nagarī Ox Power Unit booklet on the ISCOWP website, you will note that it is definitely designed for 5 single oxen.

The illustration on the back page (viewed below), showing 3 yokes of 2 oxen each is a very

early 1985 photo -- taken before the single yokes were made and before a shelter for the unit was built. If you look closely, it appears that the outside ox on the foreground is having difficulty maintaining proper rhythm with the inside ox. He does not look comfortable.

Editors note: Instructions on how to build the Gītā-nagarī ox power unit are on the ISCOWP web site: [www.iscownp.com](http://www.iscownp.com) or [www.iscownp.org](http://www.iscownp.org). It can be down-loaded with Acrobat Reader as it is in a pdf file. Look in the resource section. The Ox power unit was modeled after an Amish saw mill which was using ten horses.



*Gītā-nagarī's Ox Power Unit was built in 1985 as a project of Gītā-nagarī's Adopt- A-Cow program, to demonstrate the value of working oxen using improved alternative technology. For about five or six years, the oxen provided all the heating requirements for 60 residents of the farm. Residents selectively cut trees on the hillsides, and oxen pulled them down to the ox power unit, where they were sawed to the wood-stove specifications for the temple and various homes. The oxen then delivered the cord wood to each location around the community. In the early 1990's the use of the unit was abandoned as Gītā-nagarī shifted its focus away from self-sufficiency. But the unit, well-sheltered, can still be inspected at Gītā-nagarī where the community welcomes interested visitors.*

## First Lesson – Training in the Ring

*ISCOWP News Volume 10 Issue 1*

*Balabhadra Dās*

This will be the first in a series of articles describing how we are training Vraja and Gītā. Keep in mind that we began training Vraja and Gītā at two and a half months.

you have available will help to develop a relationship with him. No commands, such as “Get Up” and “Whoa,” should be given. You will see he will follow you. You will also see, especially if you are training two for a team, that they will want to run and kick their heels up and play just like kids. So be prepared to do some jogging and occasional running.

When we first got Vraja and Gītā, I would walk with one of them and one of the children would walk with the other. We would stay out for an



*Picture 2 Veda is first getting adjusted to having a rope around his neck in preparation for a halter.*



*Picture 1 Balabhadra developing a relationship with Vraja and Gītā through affection*

The preliminary step to the first lesson in the ring is to develop a friendship with your ox. This can be accomplished in several ways. One is that the person who is training the ox should preferably be the person who is feeding the ox. In this way a favorable exchange of friendship is established (Picture 1). Another is that the ox should be given time to get accustomed to any new experience such as wearing a halter (Picture 2). He should be accustomed to wearing a halter before beginning the next step that is hooking him to a lead rope and taking him out for walks. Spending time walking with your ox in a field, lawn, or whatever quiet area

hour to an hour and a half letting them walk, run, and graze. Occasionally, we would pet them and scratch them behind their ears and under their necks. A relationship of love and trust began to develop by being together in a positive and pleasant way. We did this for several weeks.

The training ring should be placed in an isolated location so that there are no distractions during the training session. The ring should be constructed so the animal can not jump out. I prefer training animals starting about 2 1/2 to 3 months old. The training ring in picture 1 is constructed of materials reflecting this age

## THE "HOW TO" OF COW PROTECTION

group. If you are training animals between 1 and 2 years of age, your construction should be of boards and should be 6' to 7' in height so they can't jump out. The ring in picture 3 is about 16' in diameter. I used "cattle panels" which are 4' high and 16' long and consist of heavy gage mesh. Also, we built a heavy-duty gate that they could not break through.

When we started training Vraja and Gītā, we had been walking with them on the private roadways and meadows. Each day we would also walk with them into the ring, let them sniff around, and then walk out without closing the gate behind us. So when the day came to start training in the ring, we walked in and this time



*Picture 3 The ring.*

closed the gate behind us. Because they had been in the ring previously and had no reason to be afraid, we were able to start the lesson without the trauma of them thinking, "Why am I enclosed in this ring with the gate shut?" On the day of the first lesson in the ring, at the age of three and a half months, Vraja and Gītā walked into the ring without any hesitation or fearful apprehensions.

Training in the ring should be done with one ox at a time. Since Vraja and Gītā are twins they are very accustomed to always being together. To prevent anxiety I would train one calf within sight of the other. After one entered the ring the gate was closed. Our little friend, still on his lead rope, was allowed to venture throughout the ring

to sniff here and there and ascertain his new surroundings. After he did this, he and I walked around the circumference of the ring side by side (Picture 4). In this way, I was showing him what I wanted done.

After several laps around the ring, I began training with voice commands. First, I started from a stationary position, with the ox next to the ring fencing and myself a few feet towards the center of the ring. With a slight reinforcement from the lash on his behind, a slight tug on the lead rope indicating to go forward, I gave the command "Get Up." Your ox should not stop walking around the



*Picture 4 Balabhadra training Vraja in the ring.*

inside of the ring until you give him the command "Whoa." The training period should be short, no more than a half an hour session in the morning and the evening. Every time your ox performs correctly he should be given encouraging words such as "Good Gītā" as well as affectionate strokes on the head, neck, and so on. Every command must be accompanied by their names so they will know that you are speaking to them. Periodically treats are nice to reinforce a job well done. Vraja and Gītā like oatmeal-chip cookies.

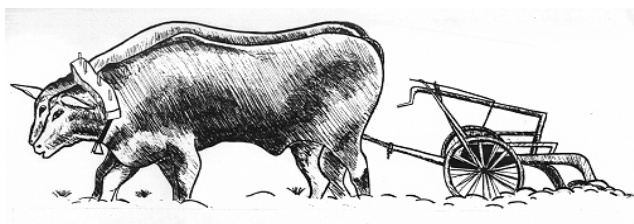


Picture 5: Vraja & Gītā beginning the "Haw" turn .

After the completion of each session in the ring you can walk your ox back to his pasturing area or living quarters. When leaving a ring the gate is opened slowly. You should be holding the lead rope and giving the command "Whoa" as the gate opens. You ox should not bolt out of the gate but should wait for the command "Get Up." Now as you leave the ring and proceed back to your ox's destination use the commands "Get Up" and "Whoa."

From now on your ox must begin to follow the voice commands. While walking give him a tap on the behind if he doesn't respond right away. The first lesson should be continued until your ox responds to the commands with little prodding. It took 1 week of daily morning and evening half hour sessions for Vraja and Gītā to learn the first lesson. Obedience based on a loving relationship is the foundation of successful training.

Footnote: Since 1991 we have trained many teams without a ring. It is much easier with a ring, especially if you are new to training.



## Second Lesson: The Commands "Gee" and "Haw"

At the completion of the first lesson, Vraja and Gītā learned the commands "Whoa," to stop, and "Get Up," to go forward, or come. Next they learned the command "Gee," to turn right, and "Haw," to turn left. In order to be taught these commands, Vraja and Gītā had to know how to work together. During the first lesson, they were taught individually in the ring, not together.

Since I had not yet completed the yoke, I connected their halters together with a light chain. Using a lead rope and a lash, I proceeded to walk up and down the road with them reviewing the first lesson's commands. I was surprised at their prowess. Vraja took the lead and seemed to enjoy the accomplishment of a successful performance. Gītā, who was less cooperative than Vraja in the ring, followed Vraja's example.

Twice daily, for 1 week, I gave them ½ hour training sessions before beginning the commands "Gee" and "Haw." The command "Gee" is considered the most difficult because the team must move away from the teamster who is always on the left. We therefore started with the command "Haw," to turn left.



Picture 6: Vraja and Gītā completing the "Haw" turn.



*Picture 7: Vraja and Gītā successfully completing a "Haw" command with graceful symmetry.*

The "Haw" turn is generally taught more easily since the teamster stands on the left side of the team allowing the left turn to be towards the teamster.

Picture 5 shows Vraja and Gītā  $\frac{3}{4}$  through the "Haw" command and picture 6 shows Vraja and Gītā completing the command in beautiful symmetry. Picture 7 shows Vraja and Gītā several weeks later in Los Angeles, USA, wearing their yoke. In this picture they are half way through the successful completion of the "Haw" command. Notice their beautiful symmetry and the amazed audience.

The "Haw" command was taught by tapping Gītā, who was always the "off" ox (the ox furthest from the teamster) on the outside right shoulder and tapping Vraja, who was always the "neigh" ox (the ox closest to the teamster) on the knees while firmly giving the command. I continued to do this for about a week with half-hour lessons twice a day. Lots of hugs, compliments, and oatmeal-chip cookies were given as rewards. At the beginning of the second week, I held back from giving taps as much as possible. The goal was to accomplish this turn well without much tapping. Occasionally I would give Gītā a tap on the behind.

I then began to teach the "Gee" command. First, I walked in front and to the right of Vraja and

Gītā and then had them follow me through the turn as I gave the command. This should be done only early on in the training of this command. The goal is that the teamster should be able to give the command to turn right, from the left side of the oxen, by voice command. The reason for this is that often the teamster cannot walk ahead of his team through the turn and if not trained to turn by voice, they expect to follow the teamster through all the turns.

I moved onto the next stage of teaching this command as soon as I thought Vraja and Gītā got the general idea. The next stage in teaching this command was to remain on the left side of them, giving the command and taping Vraja, the "neigh ox" on his outside left shoulder. I concentrated on teaching this command and occasionally reviewing the "Haw" command for about a week, again for  $\frac{1}{2}$  hour lessons daily. In the middle of the second week, I dropped the tapping as much as I could while still allowing a successful turn to be completed.

In the weeks that followed, I practiced all the commands by interchanging them. The more practice they had, the less they needed to be reminded by tapping. As much as I could I used affection, compliments, and oatmeal-chip cookies as motivators instead of tapping them with the lash. The later teams I taught received only affection and compliments with equal success.

It took about 2-3 weeks to teach them these commands. The speed with which the oxen will learn the commands will vary according to their capabilities, experience of the trainer, and the time spent daily. Vraja and Gītā took about 3 weeks from the beginning of the first lesson in the ring to the completion of learning "Haw" and "Gee." But don't forget there is the preliminary necessity of getting to know your ox to establish a relationship, and then practice of the commands to assure capability before learning



the third lesson of pulling. Also, I recommend teaching oxen at this young age because they are very easy to control and influence. However, as in young children, their attention span is limited. Therefore, I would not recommend lessons of more than 45 minutes each. The lessons should be timed to the attention capabilities of your oxen.

I spent the next month practicing with them. During this month we traveled across the country which resulted in sporadic practicing. However, they seemed to grasp the commands very well. I completed the yoke in the middle of the month's travels. I was happy it took only a few lessons for them to get use to it. But did you know they grew out of this yoke a few weeks after our return from traveling? Before this happened we started training them to pull, and this will be the subject of the next training article.

### Third lesson: The Command "Back"

There will be times when you hook up to your load, that your initial position of oxen to load will require that you back up to the load. This is not an easy task for your ox, as backing up is not a normal occurrence for them, especially yoked together. They will be concerned as to what is behind them and they will hesitate to back up.

There are several ways you can encourage them to back up. One is by putting one of your hands on each of their heads gently pushing on their heads and giving the command "Back" (Picture 7 Top). Never forget to use their names first before the command so they know you are talking to them. If this doesn't work easily for

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*The team Agni and Sham (All Pictures on right) are gentle, obedient, and good workers. They are the team of choice for training new teamsters since they are also small in stature and therefore easier to handle.*

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you, kneel in front of them, and put a hand on their chest (brisket) and massage their chest simultaneously pushing back. Once again, call their name and use the command "Back" (Picture 8, Middle).



Picture 10 *Vraja and Gītā at 8 months old, are allowed to inspect the load they will pull.*

The third method (Picture 9, Bottom) that we use is by repeatedly TAPPING them on the knees with the lash. Notice the emphasis on tapping. Do not use the lash in a way that will hurt them. Just tap them on the knee.

Once again, call their name first and then say "Back." If you have the time to practice before trying this in a working situation, that is best. We always train them to back up after they have understood the four initial commands of "Get Up," "Whoa," "Gee," and "Haw."

If you have an alley way that they can fit into but can't turn around in, you can practice in the alley way. The reason is because a lot of times when backing up, their back ends will have the tendency to move away from each other. So their heads will stay close together and their back ends will be spreading apart. If you see this happening, stop, and go to their rear ends and push on their rear end one at a time in the direction you want them to close up which is towards each other.

Then call the ox by name whose rear end you are pushing and give the command "Over." He will move his back feet in such a way that he is stepping towards his partner and closing the gap. Then go to his partner and do the same thing. They should back up straight while not spreading apart.

So if you are practicing in an alley, this will force them to back straight and they will get use to backing up straight because of the narrow confines of the alley.

You must be patient as any show of anger, yelling, or screaming will only cause them to be nervous and will delay the desired results of backing up nicely.

#### Fourth lesson: Pulling

In the very beginning there is the noise factor which they will find disturbing. *Vraja* and *Gītā* kept turning their heads inward at every step to see what the noise was and when they figured something was behind them they settled down. To diminish their apprehension, I first approached the object to be pulled by walking



Picture 11 *The chain is placed through the ring and hooked to the load.*

them up to it to sniff at it (Picture 10). I then put the chain on it, and hooked them up (Picture 11). They could then understand it was the log which was making the noise as it traveled behind them.

From the very beginning they should learn to start as a team by standing while the load is hooked to the yoke irons. Then, upon the command "Get up," start together to get the most efficiency from their combined efforts. Not that

spring tooth harrow, and now a sickle bar mower to bush-hog (cut the grasses) our pasture. Be sensitive to their conditioning and abilities and understand that this is something new to them and they will need time to become adept at it. Just like a weight lifter gradually works up to the number of pounds he is lifting gradually according to his conditioning and ability. The same should be true for your team. They should never be hooked to a load they cannot pull.



*Picture 12 Vraja and Gitā are pulling a log through the confines of two trees.*

one is starting ahead of the other. In the beginning your team will be pulling light loads. If they do not start together it will not be so noticeable. However; the uneven starting will be readily noticeable when they are grown and expected to pull heavy loads. As a result, the pulling efficiency of your team, especially on the initial start, will be greatly diminished.

Start with something light so they know they are moving something. As they learn more and more that they are pulling something, or are expected to pull, you can increase the size of their load. Vraja and Gitā started with a light log, then heavier logs, a sled full of rocks, a cultivator, a

At first you should be working in open areas pulling for a distance, resting, and pulling again for a certain distance or allotted time period. After every 2 or 3 pulls, practice unhooking them from the load, making a "Gee" or "Haw" turn, (whichever they need more practice on) approaching your load and hooking up again. In this way they will become familiar with what is expected of them in hooking up to a load.

After several days of working in open spaces, depending on the ability of your team (how fast they have learned the pulling) take them into a lightly wooded area which is in essence like an obstacle course. Now you can practice pulling a load in a more demanding situation. Survey your area and design a course you can run them through which will give them experience pulling a load in a closely confined area. A good example of a confined space is between two trees slightly larger than the outside measurements of their bodies and yoke( Picture 12).

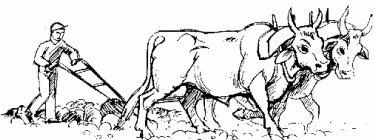
One thing you should know as a teamster is how to lead a load. If you cut a corner too sharp your

## THE "HOW TO" OF COW PROTECTION

load will snag which is a very big problem. Backing up is not an easy function for them, what to speak of with a full load. So, be aware you must allow a sufficient distance when making a turn so that your load will not be snagged.

The ideal is to work with your team on a daily basis. That way they can learn their lessons rapidly. If you do this you will see daily progress every time you take them out and run them through their paces. Don't forget all commands should be preceded by their names so that they know they are being spoken to. When you stop for their rests, tell them they are doing good: "Good Vraja", "Good Gitā," and rub under their necks and behind their ears. Take some snacks along as special treats as they are doing their lessons. As you know, Vraja and Gitā like oatmeal-chip cookies. Maybe your team likes carrots or apples. You will see they will be eager to please.

The performance of the team will only be as good as the teamster is qualified. So remember the ability of your team rests on your shoulders and your loving relationship with them.



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*Top: Vraja and Gitā pulling a load soon after the completion of training.*

*Bottom: 9 years later (2000) Vraja and Gitā remember their commands. In this photo they are pulling logs out of the woods for our winter heating. Now in 2003, they still know their commands.*

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### The 'Kamdhenu' Bullock Drawn Tractor (BDT)

*Designed by the Bharitya Cattle Resource Development Foundation  
ISCOWP News Volume 12 Issue 1*

Improvement over the traditional plough and a cheaper alternative to the mechanical tractor: The most important advantage of 'Kamdhenu' Bullock Drawn Tractor (BDT)™ (Design Registration pending with the Patent Office), is that it retains the time tested benefits of the traditional plough, but at the same time offers several times improved efficiency and saving the farmer from walking 200 km for a plot of size 100x100 meters, as per scientific study on traditional ploughs. It also offers benefits of major attachments of a mechanical tractor but at a much lower cost. One 'Kamdhenu' BDT is approximately equivalent to 3 traditional ploughs and 3BDTs are equivalent to a mechanical tractor of approximately 30 HP. The following is just a partial consideration of the savings in cost. The full comparative study can be found at [www.cowindia.org](http://www.cowindia.org).

#### **Mechanical tractor**

1. Cost of a tractor without subsidy is nearly Rs. 350,000 and that too without spare blades of implements. ( Source: Confederation of Indian Industries paper on 25. 04. 01)

2. Tractor's overhead cost:

- Interest @16% p.a. - Rs. 56,000
- Depreciation @10% p.a Rs. 35,000
- Repairs @ 7% p.a. - Rs. 24,500
- Driver @ 8% p.a. - Rs. 28,000
- Others @2% p.a. - Rs. 7,000

Total Rs. 1,50,500  
Say Rs 1,50,000

Tractor works for 800 to 1000 hours annually. Taking the average of 900 hours, overhead charges are Rs. 167 say, Rs 165 per hour.

### 'Kamdhenu' BDT

1. Cost of a pair of bullocks, approximately Rs. 10,000 and BDT Rs. 19,456.50 say 20,000 (including packing + forwarding, freight extra)  
Total = Rs 30,000  
Cost of 3 BDT with bullocks = Rs. 90,000  
(30,000 x 3) Saving of Rs. 2,60,000

2. Overhead charges of 3 BDTs are:

- Interest @ 16% p.a. - Rs. 14,400
- Depreciation @ 6% p.a. - Rs. 5,400
- Repairs @ 5% p.a. - Rs. 4,500
- Others @ 2.5% p.a. - Rs. 2,250

Total Rs. 26,550

Say, Rs. 27,000

Savings: Rs. 1,23,000

Taking the same 900 hours of annual working, overhead charges for 3 BDTs = Rs. 30,000. Hence, charge for 1 BDT = Rs. 10,000 per hour only.

The farmer is saved from drudgery due to improved work efficiency and productivity of 'Kamdhenu'. The 'Kamdhenu' is also animal friendly since it puts less strain on the bullocks due to the improved yoke design which has increased contact area of yoke with bullocks (necks and humps) thereby decreasing the chances of "wound formation" and increasing their efficiency by 20-25 %.

Some other positive points about the 'Kamdhenu' are:

1) Use of 'Kamdhenu' leads to excellent loosening up of soil leading to improvement in crop yields, whereas the heavy mechanical tractor tends to compact the soil.

2) Even women, aged persons, and adolescent children can easily operate 'Kamdhenu.'

3) There are viable costs on use of diesel, petroleum consumables, for a mechanical tractor that are extra. A mechanical tractor works on an average 900 hours in one year. Consuming 5 litres per hour, 4,500 litres @ 18 rupees per litre equals 81,000 rupees as the expense on diesel alone. As against this, a pair of bullocks cost 40 rupees per day on maintenance, fodder and other expenses. Annual expenditure for 365 days is rupees 14,600. One tractor is equivalent to the output from 3 or 4 Bullock Drawn Tractors (BDT).  $14,600 \times 4 = 58,400$  or rupees 60,000. In other words, rupees 20,000 is the annual savings from 4 BDTs. The savings in recurring expenditure per BDT equipment works out to be rupees 5,000.



*There is less stress on the bullocks due to improved yoke design*

4) The use of the bullocks instead of the mechanical tractor guarantees the availability of cow dung and urine which is a natural fertilizer for the soil and therefore a 5 -10% extra production in the first year can be acquired.

Machines such as the 'Kamdhenu' are available in America for draft power. The animal of choice is the horse but such equipment can be used by oxen. However, in India this type of machine is a

new concept. Laxmī Narain Modi, managing director of the Bhartiya Cattle Resource Development Foundation that designed this model, hopes that this machine will help the farmers to realize the value of their bullocks and therefore increase cow protection because "without cows, they will not get bullocks."

When we visited India 15 years ago, tractors were a rare sight, but now in some areas such as Vr̄ndāvana, which is outside of Delhi, traditional plowing with oxen is becoming a rare sight. The increased use of the tractor means the increased demise of the oxen. This machine is less expensive than the tractor in the initial cost and maintenance. It is also more environmentally friendly. Therefore, availability of this machine is a plus for India's cow protection.

For more information please inquire:  
Bharatiya Cattle Resource Development Foundation  
Ahimsa Bhawan, F-125, Lado Sanai, New Delhi-110 030  
Tel: 6533248-50, Fax: 6445455  
e-mail:shkahar@vsnl.net Web site:  
www.cowindia.org




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*The 'Kamdhenū' is an animal drawn tool carrier with main frame and following different attachments for tillage operations. The attachments are the following: disc harrow (6 disc), cultivator (5 tires), Deshi plough (2 bottom), mould board ploughs (2 bottom), ridger, subsoiler and potato digger*

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## Some Resources on Yokes

<http://www.wmich.edu/tillers/catalog/yoke.html>  
Refer to resource information on Tillers pg 187.

These plans are for American neck yokes.

### **Neck Yoke Design and Fit.1992. --**

by Richard Roosenberg

This paper gives more detail on how the humble neck yoke works than any source we know. It analyzes the importance of the draft (or drop of the hitch point below the neck seats) and describes the consequences of the draft on bow movement and beam seating on the neck. The depth of draft has varying consequences depending on the nature of the load.

Understanding this helps readers appreciate different yoke styles and their best uses. Yoke dimensions common to American neck yokes are described relative to the bow widths.

TechGuide - 12 pages, Item # 2gnyk, Price \$ 3.00

### **Building an Ox Yoke -- by David Kramer, 1998**

This is a thorough how-to guide to making an ox yoke. You will find instructions on selecting and curing wood, shaping the beam of the yoke, making the bows, forging the hardware and assembling the final product. This TechGuide offers good background information for using the plans and templates.

TechGuide - 19 pages, Item # 2gykb, Price \$ 4.00

### **Yoke Maker's Plan and Template Package**

For those who want to make a series of yokes for growing teams, we suggest a special package of 2 TechGuides (*Neck Yoke Design and Fit* and *Building an Ox Yoke*). a 4" full sized plan, and a series of templates for beams with bow widths from 4 to 11 inches.

Drawings - Sizes for 4-11", Item # 2yktp, Price \$ 29.00

## How To Make a Yoke

*Written by the First  
ISKCON Minister of Cow Protection:  
Paramānanda dās*

The yoke is the most basic piece of equipment you have for working an ox. It is considered to be one of the great advantages of working oxen rather than horses. With a horse a somewhat complicated harness is needed to work the animal. The horse's harness requires a constant supply of rivets, leather, buckles and rings for maintenance and repair. An ox's yoke on the other hand is a simple piece of equipment which seldom needs repair.

### Yoke Styles

An ox yoke should be well made and very strong. The oxen are going to be completely dependent on this piece of equipment throughout their work. If it breaks, it could endanger the people with the oxen and the oxen themselves. It will be under great stress when the oxen are full grown, weighing perhaps a ton each, and are pulling with all their strength on this yoke. So it is definitely worth the trouble to make it in the best possible way. There are many different styles of ox yokes. The yokes that I use fit over the necks of the two oxen. I've seen head yokes that are simply strapped onto the horns of the oxen and don't sit on the necks at all. The oxen pull with their heads.

I've also seen, in New England, what they call a sliding yoke. It is actually adjustable for different purposes. Different types of work might require the oxen to be different distances apart. For instance, when plowing, we want the oxen to be quite close together.

The yoke that is used in South Asian countries like India, with oxen that have a big hump on their back such as the Zebu, can hardly be called a yoke. It is just a straight stick that leans up against the hump on the Indian ox's back.

The yoke for European (taurean) oxen has to fit over their necks because the taurean oxen don't have a hump of any substantial size. The yoke is held on the neck by curved sticks called "bows" which go underneath the neck. A bow is generally made from hickory wood or ash wood - some kind of wood that will bend. It is actually carved into a rod and then bent into a "U" shape after being steamed to fit it underneath the neck of an ox.

### The Wood

The first thing to look for in making a yoke is a log with a good straight grain, without a lot of knots, and big enough to make the yoke out of one quarter of it. (See diagram 1.)

The yoke could be made out of a half or even the whole tree but it would be weaker. We don't want to waste our time to make an inferior piece of equipment. Even if good wood is not available in your locality, you can usually purchase it from somewhere else. If there are any sawmills near you, they usually travel some distance to get logs, and therefore have a greater selection than you might find on your own property.

An ox yoke should be made out of wood that is strong and doesn't split easily. Very coarse grained wood such as oak is strong but splits too easily. Also oak is a very dense and heavy wood which is not so ideal for an ox yoke although a heavy wood can be used. The ideal wood for a yoke is light and strong. The particular variety of tree that meets these specifications will differ all over the world. In the northeastern U.S., basswood is very light and strong when it is dry. There is a tree called cucumber that is supposed to be ideal for ox yokes. Some varieties of poplar are good for a yoke, being quite light and tough when they are dry, although I have tried poplar that cracked severely when it dried.

Where I live in Pennsylvania, the elm tree has proven to be the best for yokes. Although it is quite heavy, it has a very twisted grain and its



consistency is gummy, not brittle at all. Those two qualities together make it almost impossible to split or break, and it makes a virtually eternal yoke, even though it is very dense and heavy. But it doesn't seem to bother our oxen. They have tremendous strength in their necks and can hold up a heavy yoke if necessary.

The type of wood that I am showing in the pictures here is sycamore. I was satisfied with the grain of this piece of wood, but after it was done, I wasn't so satisfied with the checking. It checked, in other words, it cracked, during the



*Picture 1. This is a sycamore log. Since you only use one quarter or one third of the log, it has to be quite large to begin with.*

drying process more than I would have liked. But the yokes have since held up. They are in regular use and seem quite strong and they have stopped cracking.

If you use wood that is already dry there will be less cracking, but it is much harder to work the wood. When you use a green piece of wood, it is soft and easy to work with even though it may be a hardwood. The traditional method of drying out a yoke is to bury it in a haystack so that it dries out very slowly.

When wood dries out too quickly it tends to crack more. So the yoke would be buried in the hay and taken out the next year. That way it would be all dried out without any cracks. But I don't do that. I just oil it. I completely saturate the yoke with linseed oil. I find that prevents the cracking to a great degree during the time that the yoke is drying out, and it can be used in the meantime.

### Squaring the Log

In Picture 1, I am standing next to a sycamore log. The diameter of this log is about two and a half feet (about 75 cm). In order to get the grain lined up so that it goes lengthwise across the whole yoke and gives maximum strength, we want to make the yoke out of one quarter of the tree. Therefore, the tree has to be quite large. If you are making a six-inch by eight-inch (15 x 20 cm), or a seven-inch by nine-inch (18 x 23 cm) yoke, you have to start out with a quarter that is at least a foot (30 cm) wide, so that by the time you get it trimmed down and squared, it won't be too small. There is a two-inch (5 cm) difference between the depth and width of the yoke that I am going to describe.

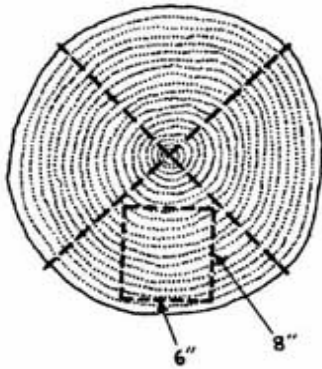
The yoke I am making here is six inches (15 cm) across the top and from the highest point to the lowest point it measures eight inches (20 cm). If you had bigger oxen you might want to make it seven by nine (18 x 23 cm). I've never made a yoke bigger than seven by nine. I don't think it is necessary for the strength of the yoke, and if you make it bigger than that you are really just adding extra weight on the necks of the oxen without any purpose. A yoke should be designed to be as trim as possible without compromising strength.

The log should be six feet long (1.82 m) to begin with. To quarter the log, I use wedges and a sledge hammer. Such a big log may take a lot of wedges. You may have to make some quite large wooden wedges in order to split the log. Be careful to split it evenly so you don't ruin the log. It is

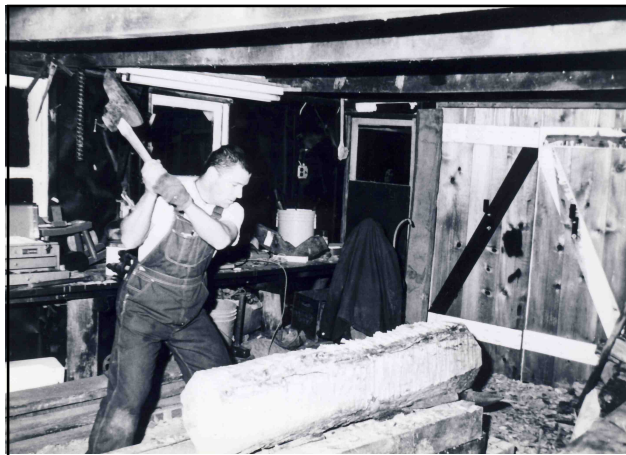
## THE "HOW TO" OF COW PROTECTION

possible that only one or two quarters will be good and the others will have a lot of knots in them. If you can't split your log with wedges, you can resort to a chain saw and slice the log in quarters.

Diagram 2 shows the end of the log. The dotted rectangle is the end of the yoke. If cut this way, the grain will run all the way through the center of the yoke. This rectangle should be laid out at both ends of the log and then lines drawn to connect the two ends. These are important



*Diagram 1.*  
End grain view showing how yoke can be cut from one quarter of log.



**Picture 2.** Here I'm using a broad ax to hew the log.

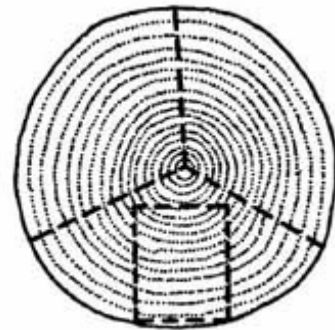
guidelines for squaring the log. This rectangle should be laid out before splitting the log, so you make sure your section of wood will be large enough for the yoke. If a quarter is too small, you can split out a bigger section and make the yoke out of a third.

Make sure to leave an extra inch (2.5 cm) around the dotted lines. You may have to

shift the layout a little due to irregularities in the grain or an unforeseen knot.

As you see in Picture 2, I'm using a broad axe. If you have this tool, it is ideal for squaring a log and hewing it. It is flat on one side and it is specifically made for hewing. Its broad cutting edge facilitates making a flat surface.

In Picture 3, I am going to flatten out this quarter on all four sides and make it into a



*Diagram 2.*  
Endgrain view showing how yoke can be cut from one third of log.



**Picture 3.** Continue hewing the log until it's squared out.

rectangle, six by eight inches (15 x 20 cm). To hew a log, hit it at an angle and make notches that penetrate as deeply as possible. After you have made a whole row of notches, lower your axe almost parallel to the log and swing it right along all the notches and they all come off. In that way you work your way down and begin to develop a flat, hewed-down surface.

Throughout this process, you want to be careful to keep looking at your lines to make sure you are making a nice squared off piece. Keep turning the log and working on all four sides at once. Gradually work your way in toward your lines. Don't come too close to the lines because there may be some irregularity since you are working with a very rough piece of wood and you are doing a lot by eye.

Use an L square to check your angles. You want to get right angles as you go around the log. Be careful not to take big chunks out of the wood



*Picture 5. The proper mood to square a log in a day.*

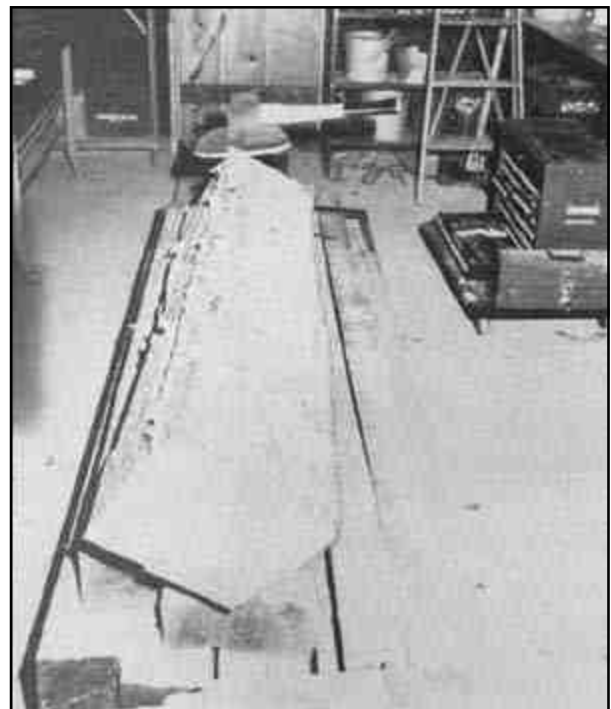
when you hit a knot or if the grain changes a little in the wood, because it could spoil your yoke and make it into a very ugly, messy, irregular thing. If you want to do a nice job, you have to watch the grain carefully. If you see that the grain is changing and the axe is digging in too far, then you turn around and hit the chunk from the other direction. This hewing is not light work. I tried to show the mood in Picture 5. In this mood, the quartered log can be squared in a day.

Picture 7 shows the squared off quarter of the log with the different tools that I used sitting on top of it. These are the tools that were used to finish it off after I was done using the broad

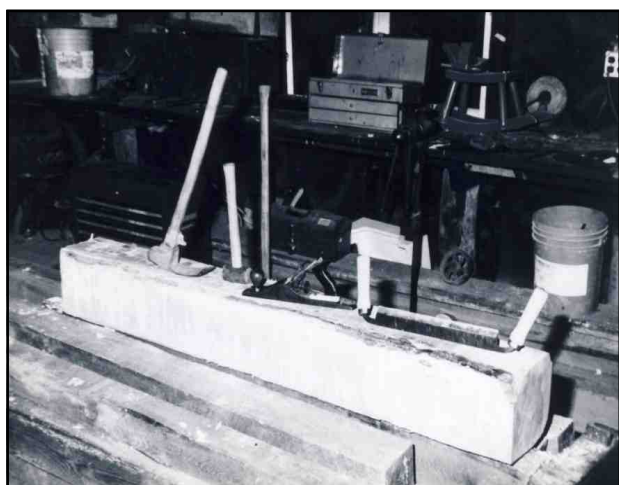


*Picture 4. Beginning to square the log.*

axe. The first tool on the left is called an adze. It is used for finer work of smoothing out a log, making it nice and flat, and for carving the yoke into its final shape.



*Picture 6. A roughly squared off log. The broad axe stage is complete.*



**Picture 7.** After the broad ax stage, smooth and square the surface using (left to right) an adze, a hammer, a plane, and a draw knife.

I hit this adze with the heavy hammer which is sitting next to the adze. This hammer is made of copper which is a soft metal. A regular hammer, which is very hard, would destroy the adze if you repeatedly hit heavy blows on it. You could also use a dead-blow mallet which is made from plastic and is filled with lead pellets.

Using this mallet you can hit with quite an impact, but the mallet has some resiliency so it also won't mar the adze. The adze is used for the finer stages of leveling and carving the piece of wood. You'll get tremendous control over your wood with this tool. You can hold it at different angles to cut any direction you want and as thick a piece or as thin a piece as you want.

The next two tools are a large size plane and drawknife. I use both of these to finish smoothing and leveling after finishing with the adze. First I use the drawknife to get out humps and ridges in the log, and then the plane which is very helpful in coming up with a very flat, square surface.

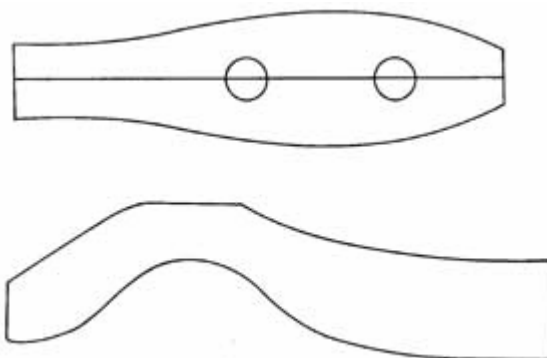
During this time I have to be constantly checking with the L square because the

successful laying out of the yoke depends on the corners being perfectly square. If they are not square, the whole layout of the yoke might be lopsided which could make it considerably weaker due to not taking full advantage of the grain of the wood.

### Carving the Roughed-Out Yoke

Now that the log is squared, it is time to lay out the actual yoke. You should have two patterns made - one for the top of the yoke and one for the front. (See Diagram 3.) First draw center lines on the top and bottom, both ends and all around the middle of the stick. You have some choice where to lay out the yoke lengthwise because your stick is about one foot longer than the yoke. The thinnest part of the yoke is over the necks and the most stressed point is the center, so try to avoid any knots or grain irregularity at these points by shifting the pattern to the left or right, wherever it fits best. When you draw the pattern on opposite sides of the stick, make sure the two drawings are lined up together, that they exactly correspond.

In Picture 8, you can see that I have drawn a line down the center of the top of the yoke. Along this line, I place the holes for the bows which hold the yoke on the oxen. Drill the



**Diagram 3.** Templates for the top and front views of the yoke. Make them life-size out of paper, referring to Master Drawing of Ox Yoke. (Half length of yoke is 30 inches or 76 cm. Height is 9 inches or 23 cm.)

holes now because after you have started carving the log and it is no longer square, you can no longer line up these holes and drill them properly. They have to be drilled at just the right angle, very straight, so they come out right in the middle of the bottom of the yoke. Otherwise the whole yoke will be lopsided.

There are two holes for each bow, as you can see. These holes are two inches (5 cm) in diameter. I don't know of any power drill, unless you have



all along the outer edge of the yoke, which makes it very quick and easy to chop these sections out with the adze. After all these slits are sawn, you take the adze and very carefully hit it with the hammer and chop out all these blocks, changing directions so that you are always chopping downwards and with the grain.

#### Smoothing with the Adze

You then have a rough edge which you can smooth out with the adze and the hammer. The



**Pictures 8 and 9.** Using the template in Diagram 3, draw the top lines and drill the holes.

an industrial type drill press that will drill a hole this big. It can best be done with a hand auger similar to the one you see in the picture. As you can see in Picture 11, I've finished drilling the holes and laid out the top pattern of the yoke.

The next step is to take a hand cross-cut saw and make a slit every two or three inches within a quarter of an inch (.5 cm) of the line. I do this

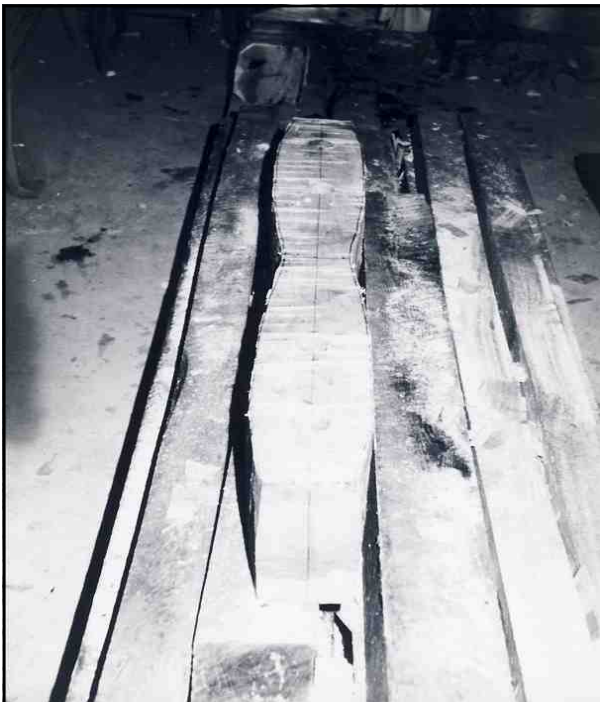
adze is the tool that you will use more than anything here. It is a small carpenter's adze, not a big heavy hewing adze. It is meant to be used with a hammer. If it is too heavy and too large, you won't be able to handle and control it easily enough.

Picture 12 shows the top view of the yoke with just the top pattern drawn and roughed out. Next we will work from the pattern on the front and



**Picture 10.** A hand auger is a simple way to drill the two inch holes.

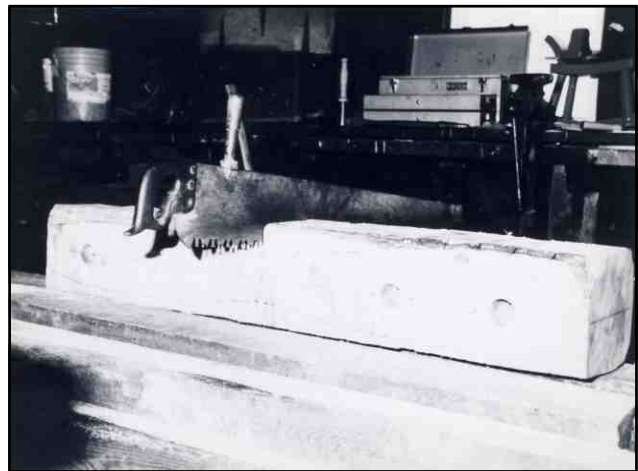
the back of the yoke as shown in Picture 13. Saw the slits very carefully. Make sure you don't make any holes in the yoke. This big dip you see on each side of the yoke is where the neck of the ox goes. It is the most important part of the whole yoke and it must be very smooth because it constantly rubs the neck of the ox and can make a sore if it isn't smooth.



**Picture 12.** Top view of yoke with pattern roughed out.

If you would take a big chip out of this section by accident or a gouge by hitting too deeply with the adze, it would ruin the yoke and make it necessary to carve it down deeper, thus losing the strength in what is already the thinnest part of the yoke. Again the smoothing is done here with the adze and the hammer followed by a drawknife and then a rasp. You should have a large, coarse rasp to work with along with your drawknife.

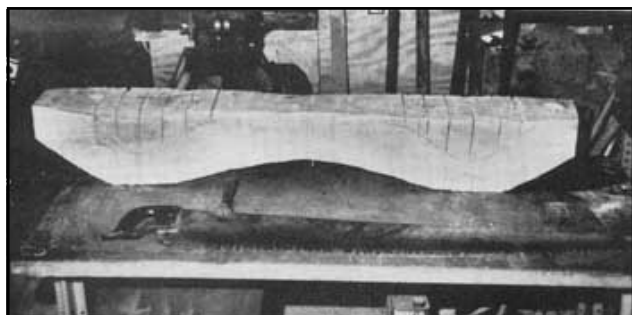
Picture 14 shows the roughed-out yoke. It is not completed, but it is completely roughed out. At this point the irons get put on, and any excess wood can get carved off and the edges can be



**Picture 11.** After the top pattern is drawn and the holes are drilled, begin to saw slits for easy removal of excess wood.

sanded. Make sure the edges get all rounded out. It should be very smooth, especially around the neck, so that the animals never get irritated by irregularities in the wood. A sore neck on the ox can put him out of commission in a season when you need him the most.

The only difference between the front and the back of the yoke is in the back, where the yoke contacts the ox's neck. The back edge gets dished out more than the front to insure the ox's neck doesn't get irritated.



**Picture 13.** Now for the front. Repeat the procedure you used to draw and rough out the top. Make sure you place the template correctly.

The most stress on the yoke is on the center part; therefore you can see how it is thicker. You can see how the grain runs all the way through the yoke. If the yoke breaks, it is either right in the center or at the ends. If the ends are not very strong, they may break off when bumped into a post or a tree. So they should be very strong.

But, as a principle wherever there isn't normally a lot of stress on the yoke, you should try to shave off as much wood as possible, so that it is not heavier than it needs to be. To rough out a yoke like this will take two days of steady hard labor. If you have a large band saw, you could do all of this roughing out in one hour, except for drilling the bow holes.

In Picture 15, you'll see the finished yoke. Although it isn't clear in the picture, I have placed carriage bolts vertically through the yoke

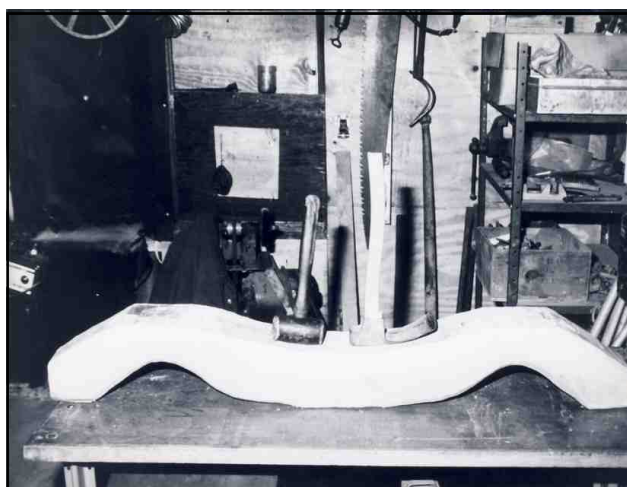


**Picture 14.** The yoke roughed out front and back, and top and bottom.

at each end to reinforce them. Refer to the following Master Drawing for details (on the following page).

*Editors note: This yoke was made for a western breed, specifically the breed Brown Swiss. The yoke is designed for the oxen to pull the load with the strength of their necks. Such a breed has no hump. We recommend for breeds with a hump to refer to the article on page 101.*

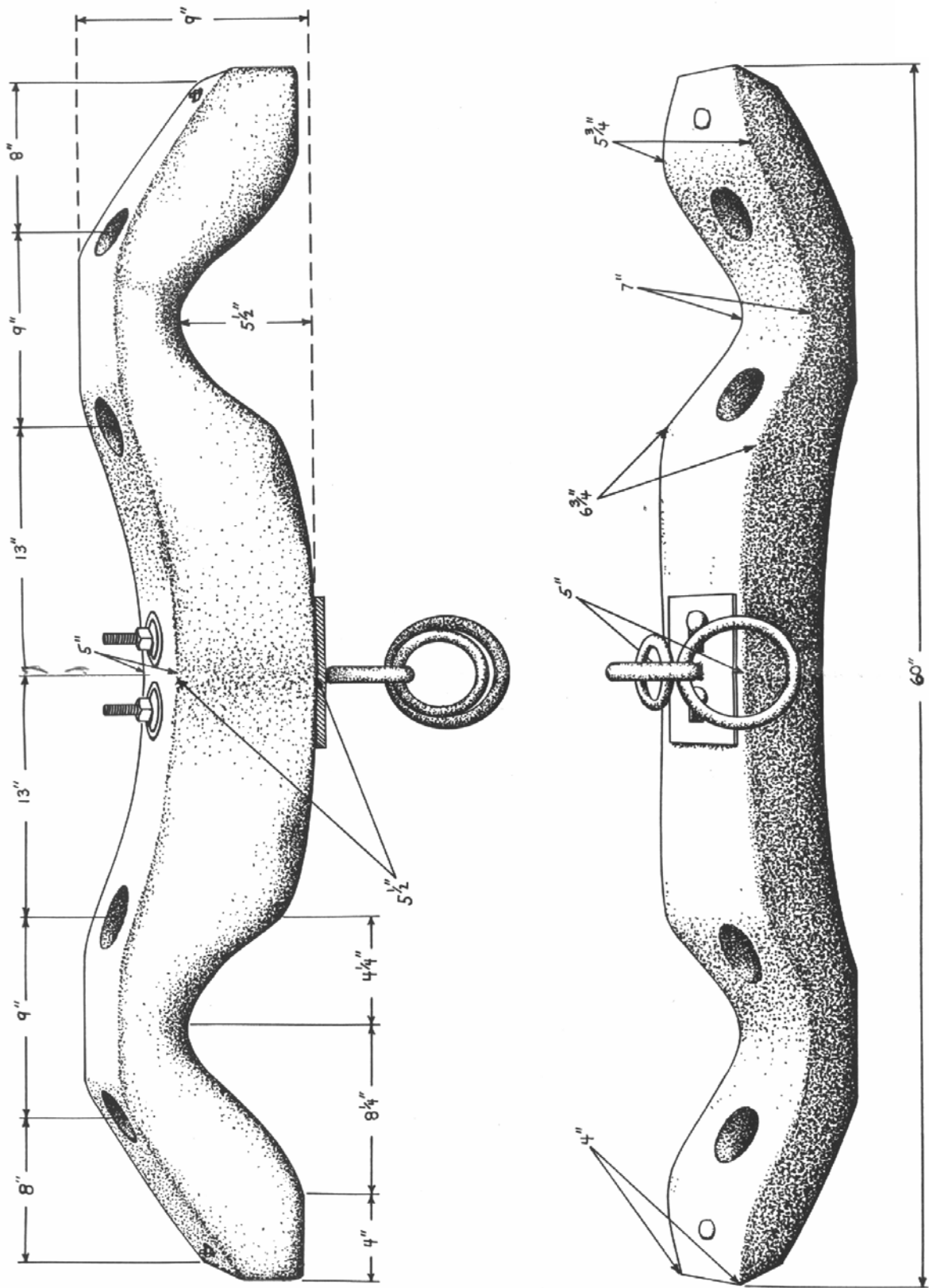
*On the following page is the template for the yoke. The artist for this drawing and the all drawings pertaining to making a yoke, the irons, and the ox-bow is Sādhana-siddhi dās.*



**Picture 15.** Completed yoke with tools.



THE "HOW TO" OF COW PROTECTION





## Making The Irons

by  
*Paramānanda dās*

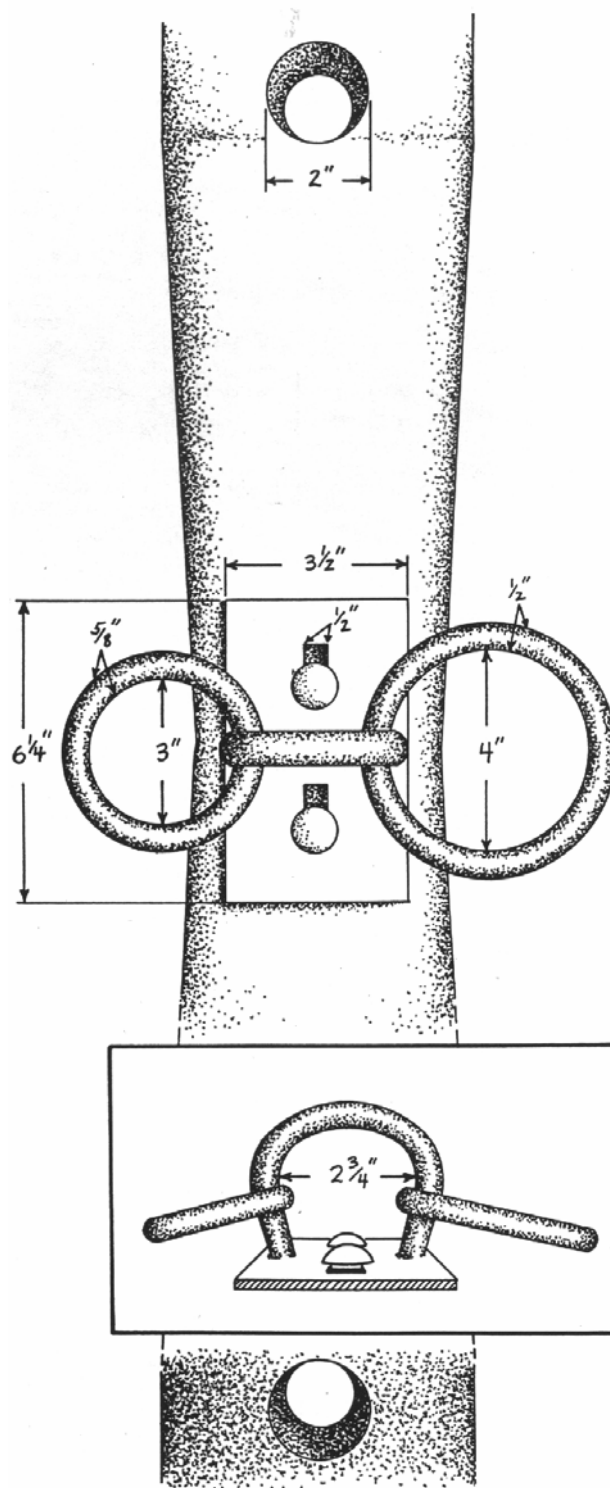
Take a three-eighths inch (2.3 cm) thick metal plate and cut it to the size shown in the drawing, about three by six (7.5 x 15.2). First cut the bolt holes. These holes are a half inch (1.2 cm) by an inch-and-a-half (3.8 cm) so that the iron can be adjusted back and forth to compensate for one ox stronger than the other. This gives a little additional leverage to the weaker ox so that he can pull on the load evenly.

After these holes are made, then you cut two round holes for the rod that will hold the two rings. This should be at least five-eighths inch (1.6 cm) soft rod. After the holes are cut, then you bend the rod so that it fits right into the two holes, all the way through. The rod ends should stick out the other side of the plate.

Before you insert the rod into the holes, you have to make the rings. As you see in the drawing, there are two different size rings. The smaller one is heavier, made out of a five-eighths inch (1.6 cm) rod and is used for the chain that you use to pull your loads. The thicker ring for the chain fits through the thinner ring. The larger ring can be half inch (1.2 cm) rod since it doesn't take very much stress. (Remember, the larger ring is thinner and the smaller ring is thicker.)

After putting the two rings onto the bent rod, insert the bent rod into the two holes in the plate and weld them. Weld on both sides of the plate all around the rod and then whatever is sticking out beyond the weld on the bottom of the plate, cut it off and grind it smooth.

When you mount the irons on the yoke you will have to make some little grooves in the wood for the stubs of the five eighths inch (1.6 cm) rod which are sticking out of the bottom of the plate. This is so that the plate can fit flush with the yoke and also slide back and forth when you want to adjust it. The irons get bolted onto the yoke with one half inch (1.2 cm) carriage bolts. The irons should be very well made with indestructible welds. When the oxen are pulling very hard on a load, if the irons give way and break, there can be dangerous consequences.



## HOW TO MAKE AN OX-BOW

*Written by the First  
ISKCON Minister of Cow Protection:  
Paramānanda dās*

An ox bow is made out of wood that can bend without cracking. I always use hickory. (Some people use walnut.) A freshly cut tree will be the best for bending. You soften the wood by steaming it. Freshly cut wood doesn't have to be steamed more than twelve hours.

If you are working with dry wood, I don't know exactly how long you would have to steam it in order to bend it, but it would take a lot longer. Even then, the chances of the wood splitting when you bend it would be much greater.

### Selecting the Wood

So try to find a live tree which is perfectly straight for a six-foot (1.8 m) section and about six inches (15 cm) in diameter. It is very important that the section does not have knots in it. Within that six-foot section, at least three feet (90 cm) in the middle should be free of knots or even bird pecks.

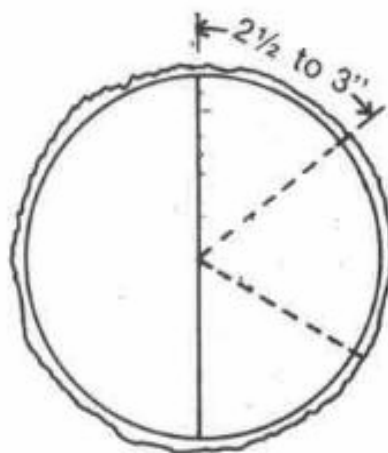
Sometimes when a tree is young, birds peck at it and a blemish remains which grows over and makes a bump like a little knot. It causes a definite imperfection in the grain of the wood. If you try to bend a piece of wood where there is a bird peck, the wood is likely to split. You are going to split this log lengthwise into six or eight pieces depending on the exact size of the log.

There might be a bird peck or knot on one side of the log, but on the opposite side you might get a good section. Knots are all different. Sometimes they go deep into the wood or sometimes they are just superficial. The more you work with trees, the better you can judge by looking at them how deep the bird pecks or the knots go. After you split your log into sections,

you will be able to see where the knots are and how deep they go.

### Splitting the Log

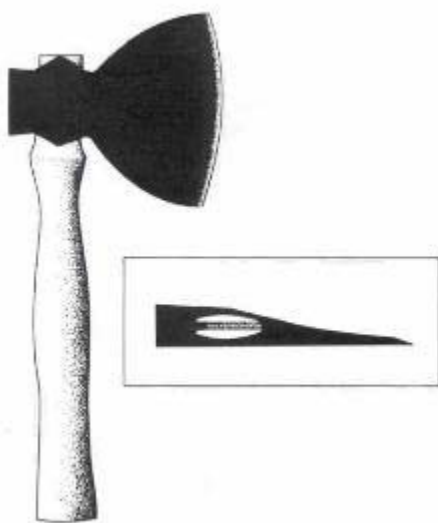
I use small wedges to split the log. First, split it in half. Then split it into sixths by splitting the halves into three sections each. You need at least three wedges to do this properly. Your ox bow, when it is finished, will be one and a half inches in diameter (3.8 cm) at the widest point. So, to start with, the outside edge of the section should be at least 2 1/2 inches or 3 inches wide (6.3 or 7.6 cm).



*Outside edge of section should be 2 1/2 to 3 inches [6-8 cm] wide.*

The stick initially gets hewn with a broad hatchet until it is almost to its right dimensions. This hatchet is a small version of the broad axe which I described in the yoke-making article. A broad hatchet has one flat side which makes it ideal for hewing.

The outside edge of the stick with the bark on it should be untouched. We want to leave the bark on to help keep the bow from splitting where it bends. The bark will always stay on if you handle the piece of wood properly. As you can see in the illustrations, the outside edge of the bow has the bark on it and all the carving is done on the sides and the inside.

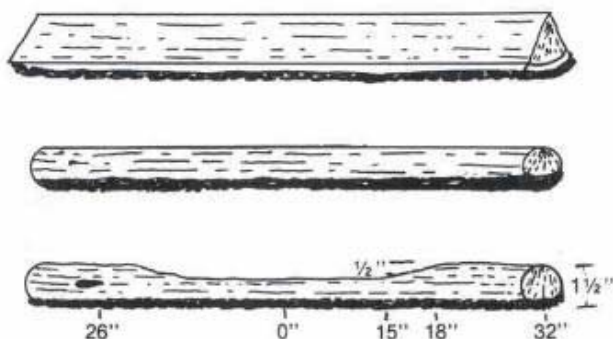


*This is a Broad Hatchet. One side is flat, which makes it ideal for hewing.*

We have two-inch (5 cm) holes in our yoke so we make the bows about 1 1/2 inches (3.8 cm) at the top. We found that most of the stress on the bows is right below the yoke. When a bow breaks, it is always at that spot. After the bow passes through the yoke, its depth is tapered down to about one inch but the width remains the same. There is little stress on the lower portion of the bow.

### Hewing the Stick

Hew the stick until it is just a little bit oversized.



*Progression of hewing the bow stick.*

(Note drawings.) Don't go too close to your lines because the hatchet is a little bit crude and you

might dig it in too far by accident and ruin the bow. Use an outside caliper often to verify that you aren't taking off too much or too little.

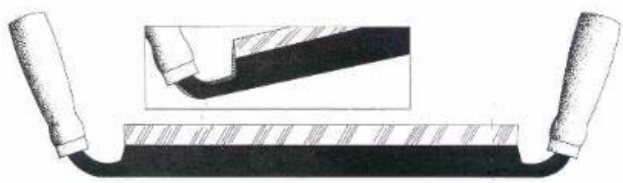


*This is an Outside Caliper, used to take dimensions of the diameter of round surfaces.*

When you have finished hewing the bow, you should make your final decision exactly where you are going to bend it, and mark the spot. Since you have a six-foot stick and the bow need only be five feet (1.5 m) long, you have one foot of leeway to choose the best spot for the center of the bend, based on the quality of the wood. Any imperfections in the wood should be kept as far from the bend as possible. If the bow splits when you bend it, it is useless and you have wasted all the valuable time you spent in preparation, so be careful at this point to use your best judgment.

### Shaping with a Drawknife

The final shaping of the bow is done with a drawknife. You can put your bow stick in a vice and shave it down to exactly the size and smoothness that you want with this drawknife. A drawknife should be used with the beveled edge down, facing the wood.



*A Drawknife, note the inset showing the beveled edge.*

Your shavings should be long and thin if you are using the tool properly. The old gentleman who taught me to make bows and yokes once said, "You can tell a man by his shavings." In other words, the longer they are, the better the man.

Keep using the caliper to check your work. Be careful to use the drawknife with the grain of the wood so it doesn't dig in and make notches. You want the inside of the bow to be very smooth because it will be constantly rubbing on the ox's neck. The drawknife must be kept very sharp to be effective. After you are done shaping the bow with the drawknife, then you can smooth it with a wood rasp and then sand it.

### **Steaming the Bow**

When it is time to steam the bow, we take an oval shaped copper kettle approximately two feet long and one foot wide. Have the kettle over some constant source of heat like a gas stove. When the water is boiling and steam is coming up, then lay the bows across the top with the bark facing up. You can steam two bows at a time.

Cover the top of the pot and the bows with burlap sacks to hold the steam in. Be careful not to let the edge of the sacks hang down near the flames and catch on fire. They should just cover the top of the pot so that most of the steam is contained although some steam escapes through the sacks. Steam the bows for about 12 hours to be safe.

The exact time necessary depends on your wood. If it is really freshly cut wood, that certainly

shortens the steaming time. I have even heard of people bending green hickory wood without steaming it at all. But I wouldn't try that.

Whenever you steam the bow, the bark will come loose. But since we are only steaming about two feet of the bow, right where it gets bent, all the rest of the bark adheres to the wood nicely when it is steamed in this way.

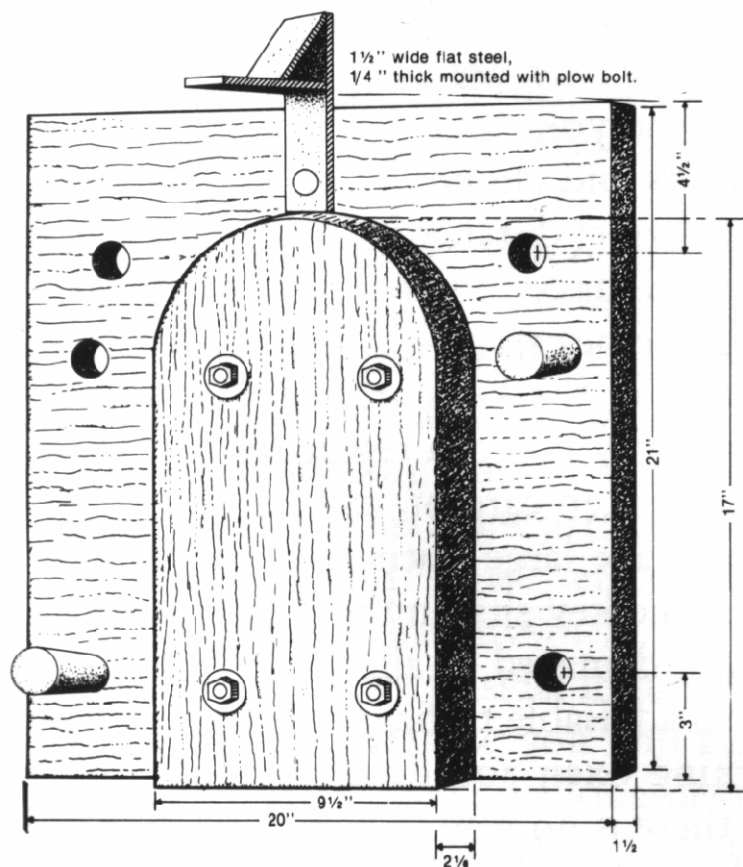
A piece of wood can be steamed much quicker if you enclose the whole thing in a pipe with steam coming in. But the result may be that the bark comes off the bow. We have a steam boiler in one of our buildings. We put a shut-off valve at one of the steam ports and fix a pipe large enough to contain one ox bow. The pipe is connected to the steam port with the bow inside it and then capped.

If the bow is left in there for twelve minutes with the steam at six pounds of pressure, it can then be removed and bent and the bark will usually stay on. We found that if left for 15 minutes the bark would come off. More power is required to bend the bow using this short high-pressure method than when using the slow method with the kettle. However, the results were consistently good. Even when the bark came off, nine out of ten bows held up under normal service.

### **Bending the Bow**

A bow should be bent immediately after it is removed from the steam. If you let it sit out in the open air, it will lose its softness very quickly, so you must have your form set up very near the steaming operation. The form must be bolted or nailed onto a solid workbench. The form is pictured on the following page on the top.

At the bottom photo on the following page you can see that the bow is wedged in very tightly. That is very important. Otherwise it will buckle right at the mid-point. That is the biggest stress point, right at the middle of the bend. The bow



from the form and leave it wired up. You can use the bow the next day if you need it, but you must always leave it in the yoke. Otherwise it will straighten out.

It may take up to a year before the bend is permanently fixed. I have seen that there is a tendency for the bend to gradually straighten out, so it is good to always keep the bows in the yoke or wired together. If you have a yoke that you are not using, just put the bows in the yoke and leave them there for an extended period of time and then they will become fixed in the shape of that yoke.

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*Left: This is the Form for bending the bow. For older oxen, widen the form to compensate for their larger necks.*

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*Bottom: Here is how the steamed bow stick is bent on the Form.*

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must be bent gradually. There are different holes in the form and as you bend each side of the bow, you put the pegs in to hold it in position.

Depending on how thick your bow is, you may be able to bend it by hand. Bend one side until you pass a peg hole and put the peg in. Then you can let go and bend the other side to its corresponding hole. In the photo I started the bend with two chain binders. I put a chain on both ends of the bow, and I gradually cranked the two ends together, switching from one binder to the other. When the bend was half done, I just pushed the bow in the rest of the way by hand. But don't do it all of a sudden. Do it slowly. This will minimize the chance of the bow cracking.

Once the bow is bent all the way around the form and the pegs are holding it in place, then take some wire and wrap it around the ends of the bow to hold it in place. Remove the bow



There should be a little space between the side of the ox's neck and the bow, when the yoke is in its normal pulling position. The bows shouldn't be right on the ox's neck. You might want to have two different size forms. I have two forms and now our older oxen have outgrown the large form shown in this article. Instead of making a new form, we put shims on both sides of the form to make the bow wider.

### Bow Keys

You will have to put keys in the bows to hold them in place in the yoke. A wooden key works better than anything. We tried metal bolts, pins, spring clips, but anything we used was completely inadequate and very troublesome, always falling out or bending or wearing big holes in the top of the yokes. Finally we started using the time-worn method of wooden keys.

Since the key must be small, it should be of very strong wood. We found elm makes the best keys, and hickory second. They can be whittled with a knife. Seven-sixteenths of an inch (1.3 cm) is a minimum diameter for the body of the key. Three-eighths inch (1 cm) keys break too easily, we found. It is a good practice to always carry an extra key when you work the oxen. A good key will break only in some extraordinary situation when the oxen are acting up.

Key hole must be drilled perpendicular to bow stick, and must be carefully centered, about 6 inches [15 cm] from one end of the bow. Note how key will lock into place.

The hole in the bow to receive the key should be drilled. It should be carefully centered and made perpendicular to the bow. We drill three different size holes. First drill the 7/16-inch (1.3 cm) hole for the main shaft of the key and then two smaller ones below it. Then carve out the key hole so the key fits in well.

The distance of the keyhole from the bottom of the bow is critical and depends on the size of your oxen. If the bows are too far down, the yoke slides back on their necks when they pull. The effect of this is that the oxen are using the bows to pull with instead of the yoke and the bows press up against their throats and choke them. For our full-grown oxen, the correct distance is 22 inches (56 cm), but you must adjust the distance for your own oxen.

You should be careful not to damage the yoke by the rubbing of the keys around the holes because there is no way you can repair that. A good yoke, if properly taken care of, can last a lifetime. So it is good to have large leather washers that fit over the bow. The key sits on the washer and the yoke doesn't get damaged at all.



*A leather washer will prevent key from damaging the top of the yoke.*

It is also advisable to have extra bows when you are working oxen and depending on their work, because there is no way you can utilize the kind of yoke I have described here without a good bow. Before I knew how to make bows, and I was only working one ox with a single yoke, I made a bow out of an iron pipe. This can be done in an emergency.

## Planting Potatoes by Oxen in England

From: <Syamasundara@pamho.net>  
 To: <Cow@pamho.net>  
 Sent: Thursday, June 15, 2000 2:20 PM  
 Subject: Planting potatoes by oxen

I have just completed the latest stage of our potato planting. Perhaps some of the readers of this conference may be interested and enthused to hear how it can be done using oxen.

In Autumn the land is heavily manured. It is said 20 tones per acre is a good amount. The manure is then ploughed in.

In the beginning you may need two persons to help you plough. One person holding the plough and one person leading the oxen (voice) or driving the oxen (nasal harnessing). Later you will be able to plough on your own if you have a self adjusting plough (Sulky type) if you are using voice commands or any type of plough if you use nasal harnessing. At BM we plough with one man using nasal harnessing. Sometimes it is a bit exciting but it is a fantastic feeling.

During the spring (Spuds are planted at around Easter here in the UK) the land may need to be ploughed again if the weeds or grass has become established. The next task is to ridge the field. To do this you need a wide yolk. Your spud rows should be about 30-36 inches apart. The ridging yolk should be twice the distance your ridges are apart. If your ridges are going to be 30 inches apart then the distance between the middle of one ox's neck piece to the middle of the other ox's neck piece will be 60 inches.

Ridging is very easy because one of the oxen will be walking in a great big furrow left by the ridging plough.

Furrows done, it is now time to plant your potatoes. Fill up a bucket with your seed and

walk down the furrows dropping a potato every foot. If you haven't got a ruler on hand drop a potato in front of your own foot and one behind it.

Now the seeds are sown they need to be covered. THIS IS THE TRICKY BIT! I have found that it is easier to go back to the normal size yolk to cover the potatoes. After the first row then one bull will be walking in the new furrow and one will be walking in the older furrow. The main thing is to cover all the potatoes. Having your lines a bit squiggly won't really matter at this stage.

Now the potatoes are covered they should be rolled flat; or at least as flat as you can. It is better to use a ring roller rather than a flat one.

Every few days the land can be lightly harrowed using a chain harrow or light harrows until the shoots start to emerge.

When the potato shoots appear then the plants can be buried again by reridging down the rows (Ridging yolk). So now we will have returned to rows of deep furrows and ridges.

To keep your weeds down simply go up and down the furrows using the ridging yolk and ridging plough. One bullock walks in a furrow, in the next furrow is the ridging plough and then in the next furrow is the second bullock.

If your land is weedy you may need to hand hoe at least once between the plants (the ridging plough cannot get there).

To lift out the potatoes you can get a special spud lifting plough, a spud spinner, a ground driven spud lifter (perhaps a 6 ox job) or if you haven't got any of these try ploughing them out.

Ox powered spuds kijaya!

## DUNG/URINE



*Above:* Dr. B.S. Bhandari is giving Balabhadra, Labangalatika and Chāyadevī a tour of the simple compost operation. The banana leaves in the background are bought in the fruit market and are an important ingredient in making the simple compost in the pits seen in the foreground. Diluted cow dung is put over the banana leaves, then earth. The cycle is repeated until the pit is filled. Simple compost takes 3 months to complete.

### Rajasthan Goseva Sangh

*ISCOWP NEWS Volume 12 Issue 1*

Visiting the Rajasthan Goseva Sangh was an inspiring and enlivening event in our travels. Dr. Sri Brahma Datta Sharma is the director and visionary of the project. Here is a practical example of the production of a variety of beneficial products just from the dung and urine of cows. Not only does this example introduce a means by which to help support cow protection, but it also gives pure medicines for the cure of many physical ailments that plague mankind.

The photos and their description contained in this article give you some practical information about the production of these products.

However, for the serious inquirer we recommend staying at the Rajasthan Goseva Sangh for a period of time to thoroughly learn how to make these products.

Besides the dispensary there is a cancer clinic that can house 15 patients. Dr. Shri Brahma Datta Sharma tells us that they have an 80% cure rate but most patients come there as a last resort making it more difficult to treat them. Even in India there is disbelief that cow medicines will help and belief that allopathic medicines will provide a cure. One treatment is



to spend 5 to 10 minutes in a cow dung bath up to the patient's nose. After this treatment one feels wonderful, as if massaged all over.

Dr. Shri Brahma Datta Sharma believes that only urine from the Desai cow has the necessary qualities to be used as medicine. He says that the hump on these cows has a special nerve called the Sūrya Ketu nerve that absorbs medicinal qualities from the sun. We are interested to do a lab analysis on the qualities of the cow urine from protected cows here in the USA and the urine of Desai Cows to find how the urine differs. Also it is widely believed that the milk and urine from an all black cow is the best.

Unfortunately, we arrived at the Rajasthan Goseva Sangh in ill health. In Vṛndāvana it had been cold and rainy and myself and Lakshmi, our daughter, had contracted some form of flu. We hoped by travelling to Jaipur, where the Rajasthan Goseva Sangh was located, we would come upon warmer weather and experience improved health. Balabhadra also was experiencing back pain since he had slipped in the bathroom in Vṛndāvana on the marble floor.

We arrived in Jaipur in the early evening and found a place to stay. During the night Balabhadra's back became worse to the point that he could not rise from the bed without assistance to reach the bathroom which was only a few feet away. The decision was made to get to the Rajasthan Goseva Sangh early in the morning since that is when the āyurvedic doctors are available at the dispensary. The hope was that some relief could be had by their help.

We arrived during a bright sunny morning and enjoyed the warm sun after the dark cold days in Vṛndāvana and Delhi. The Goseva Sangh is located in the heart of the city of Jaipur and once you are inside its walls you have entered into another world far different from the city. It consists of 13 acres in which they have a vermicompost and simple compost operation, a

one acre herb garden, a cow urine medicinal operation, a dispensary, a cancer care clinic, about 8 acres of grass for the cows, a gobar gas plant and 100 cows. Everything is nicely laid out and there is a peaceful, pleasant atmosphere throughout.

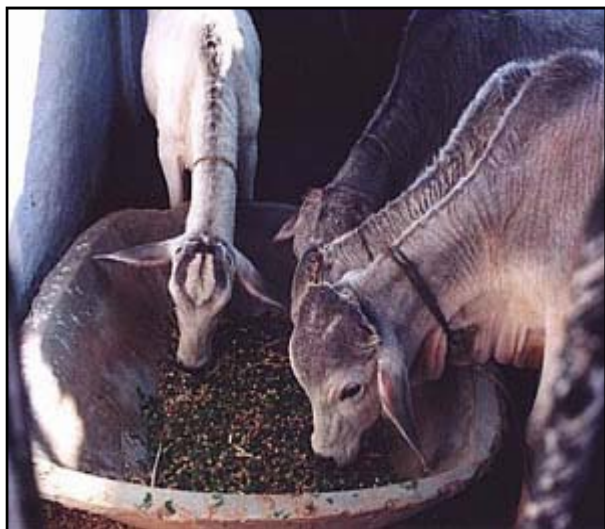
Our arrival was expected and chairs were placed out in the sunny yard. At a previous visit, Labangalatika prabhu had given Dr. Shri Brahma Datta Sharma a copy of the ISCOWP newsletter and he was reported to be enlivened and enthusiastic about ISCOWP's work. The Director arrived and Labangalatika prabhu presented him with various gifts. Then we gave him two issues of the ISCOWP News. He said that he had read the issue Labangalatika gave him from cover to cover. He agreed strongly that there is no cow protection without ox power. This is the point in our writings that he found most enlivening.

Soon an āyurvedic doctor arrived. He had been the director of the National Āyurvedic Association. Dr. Shri Brahma Datta Sharma patiently translated for all and treatment was prescribed. Then we proceeded on a tour conducted by Dr. D.S. Bhandari.

According to Dr. D.S. Bhandari, India is 80% agrarian. He explained that in the past it was considered important by India's farmers to get good bulls so only the best cows were bred for this purpose. However, the cows that produced good bulls did not produce a lot of milk. As the Indian population increased, the demand for milk could not be met so other breeds from the West, known to be high milk producers, were introduced and bred to raise the milk production. However, these animals did not make good bullocks for the Indian farmer. The Indian method of yoking is dependent upon the hump of the bullock. It was also discovered that the imported breeds and crossbreeds thereof were susceptible to local diseases and not heat tolerant.

## THE “HOW TO” OF COW PROTECTION

At the Goseva Sangh, they only breed with Tharparkar cows that are indigenous to the region. How beautiful they are! They look like white angels floating on their wing like ears to greet us. They have doe shaped eyes, long noses and delicate mouths and are very eager to meet us as we approach their gate. We are told that there is less than 1% mortality rate at the Sangh. They have had 1 death in 3 years. Although they have 100 cows here, they have 40, 000 cows in 10 centers. In one center they take in abandoned cows of all breeds. They give most of their bulls to the local farmers and often they give trained oxen and a cart.



*Tharparkar calves feeding. At the Goseva Sangh they breed only with Tharparkar cows as they are indigenous to the region.*

After we toured the entire grounds, we spent some time at the dispensary talking with the āyurvedic doctors about the medicines available there. Then we had lunch with Dr. Shri Brahma Datta Sharma at the cancer clinic. The meal was wonderful with fresh butter available from the Tharparkar cows.

Very near to where we were dining was a large old banyan tree. Along with the physical treatment prescribed for curing cancer, a

spiritual program is given. It is under this tree that Sanskrit mantras are chanted and meditation is conducted.

Although Dr. Shri Brahma Datta Sharma is the director of the project he is involved with the everyday activities of the operation. When Balabhadra went back the following day, he found Dr Shri Brahma Datta Sharma brushing one of the bulls. Throughout our travels in India it was the common practice that only workers dealt directly with the cows and the director or headman did not do any of the day-to-day work. But Dr. Shri Brahma Datta Sharma believes that those who have the knowledge should work with the cows to show the example of cow protection and to teach others proper care. Unfortunately in India those who work do not have the knowledge and understanding of cow protection. This is not just the situation in India but in the West also. “The breeding of cows is a science as well as an art,” says Dr. Shri Brahma Datta Sharma. Protecting cows and the work involved is also a saintly activity not just manual labor to be designated to a lower level of respect. This misconception is not only in India but in the West as well.

400 men farmers and 100 women farmers have been trained in the year 2001 specifically in the composting methods available at the Rajasthan Goseva Sangh. They are very willing to share their knowledge and train people so that the value of the cow can be more realized and its protection increased. Devotees, like Mahanananda Gour Hari prabhu from Māyāpur, have gone there to learn the methods so that they can utilize them in ISKCON goshallas to support their cow protection programs.

We greatly encourage all persons interested in supporting cow protection to visit the Rajasthan Goseva Sangh. Their contact information is: Rajasthan Goseva Sangh, Durgapur, (opposite Income Tax Colony), Tank Road, Jaipur, India. Tel# 0141-551310.

**Middle:** Vermicompost, is made from cow dung, bagged and ready to be sold. They have no problem finding buyers. Vermicompost requires red worms . The red worms used have both female and male organs. One such worm can produce 250 worms in 6 months. It is considered 3-3 1/2 times better than simple compost because it has 14 trace minerals and nitrogen and potassium.

The cow dung is sprinkled with water to cool it down. The rows of cow dung are in the shade and when cool enough, the worms are put into the dung. It is then sprinkled again to maintain moisture and gunnysacks are put on the rows to maintain the moisture.

When it is a black color, it is ready. When it is a brown color it isn't quite ready. If it is black it is no longer sprinkled with water and allowed to dry. At that point it is put through a sifter where the worms are separated from the vermicompost. It takes 21 days to mature. It takes 10 days to mature, instead of 21 days, if slurry is used from the gobar plant.

**Bottom:** Cow urine is distilled in iron pots made especially for this purpose. These pots can be purchased from the Rajasthan Goseva Sangh. The cow urine is later combined with herbs for medicines or used by itself as a tonic for improved general health.

Health problems such as Rheumatism, Diabetes, constipation, psoriasis and other skin problems, fluctuating blood pressure, anemia, and obesity are treated with these medicines at the dispensary that is open to the public. Three āyurvedic doctors are available at the dispensary in the morning to prescribe the medicines. Labangalatika prabhu says that she is taking one medicine for her low blood pressure problem. It is made by heating iron slowly in a clay pot until it disintegrates and becomes ash. It is then mixed with cow urine and is good for raising the hemoglobin and for fluctuating blood pressure. One lakh a month, (about \$2, 250.00 American dollars) is gained from the sale of these medicines.



**Above:** A worker is wrapping a cloth around the cow dung and squeezing the liquid into a bucket for combining with herbs to produce medicines.





**Top:** Dr. Shri Brahma Datta Sharma (center in white dhoti) is explaining to Balabhadra and party about the Rajasthan Goseva Sangh's large bio gas plant seen in the background. By using the dung from their cows they are able to provide electricity for their operations.

**Right:** As we toured the herb garden, this worker was making cow urine pesticides by cooking cow urine and herbs in a large pot over an open fire. Red chili, Neem, and garlic are some herbs that can be combined with cow urine for this purpose. Cow urine can also be used for foliar feeding. Sanat Kumar prabhu from the ISKCON farm in Daund says they grew 6 tons of wheat with a mixture of water and urine using 10% urine. This was sprayed weekly on the crop. Kalmegh and Calamus root are two of the herbs that grow in the garden.



## Bio-Gas Plant

ISCOWP News Spring 1995  
ISCOWP News Summer 1995

Text 83532 (12 lines)  
From: IFAST (Inst. For Applied Spiritual  
Technology) (Aja dās)  
Date: 28-Mar-95 21:39 EST  
To: Cow (Protection and related issues) [463]  
Subject: Dung

Can someone please explain the proper way to use cow dung as a fuel for heating & cooking? I understand the dung must be dried for some time. Is there a way of keeping the "aroma" off the food, or is that considered auspicious also? Thank you.

### ISCOWP REPLIES ( 4/5/95)

The recent question asked by Aja dās of IFAST can be responded to in two ways. We can either discuss the method of cooking and heating with cow dung that has prevailed in the villages of India for thousands of years and/or we can discuss cow dung's use though methane digesters providing not only cooking and heating fuel, but also fertilizer.

In the following texts we would like to discuss both uses of cow dung. We would like to begin with some statements by Sharon & James Whitehurst who took instruction and knowledge from Ram Bux Singh, acknowledged authority on producing methane gas from organic materials, and built their own bio-gas plant. They have a herd of 60 Holstein milkers and 40 young cows and bulls. Their first bio-gas plant was made for the use of cow dung from 4 cows. These comments and more technical information on the subject can be found in the book: *Producing your own Power: How to Make Nature's Energy Sources Work for You*, edited by Carol Stone, Rodale Press Inc., Emmaus, PA., copyright 1974, SBN 0-87857-088-8.

"Working-class Indians have traditionally used dried "cow patties" for fuel. Although this manure provides heat for warmth and cooking when burned, there are two disadvantages to burning it. The manure produces quite an offensive, eye-watering, air polluting smoke, and by using the manure in this manner, there is no residue with which to fertilize the land.

In such a densely populated, underdeveloped country as India, robbing the land of much needed fertilizer can lead to serious food shortages.

Both these disadvantages are overcome, however, when the manure is fermented, rather than burned. There is no stinky smoke, and the bio-gas slurry that is removed from the digester and spread on the land boosts the nutrient-starved croplands to the point where yields per acre double and triple as the quality of the crops improves. In India the methane gas is considered the secondary by-product, although in the U.S., where the majority of us have long depended upon commercial fertilizers we would think of the energy (gas) as the prime reason for populating bio-gas plants.

The digested slurry has several features which make it more desirable than raw manure as a fertilizer. The biggest advantage is the increased amount of nitrogen which is stabilized and made available to the soil by the anaerobic digestion process. Bio-gas slurry is a tremendous source of humus and therefore a real soil builder. One application of the spent slurry to our garden last spring really worked wonders. Our hard clay soil has always been a problem, muddy when wet and resembling cement when dry. After liberally soaking the garden plot with slurry, we tucked in our vegetable seeds and waited for Singh's promised miracle to happen. We weren't disappointed! The hard unruly soil became loose and friable, easily cultivated, and brought forth an abundance of prize vegetables. An added attraction of this fertilizer is that digested slurry,

unlike that familiar barnyard stuff, has no disagreeable odor and contains no pathogenic bacteria or weed seeds, these having been killed by the digesting process within the plant.

Our plant is a very simple type. It has 225-cubic foot capacity and it utilizes the manure from about 4 cows on a daily basis. It is a good size plant for a homesteader, enthusiastic organic gardener, or just anyone who wants to experiment with methane gas production. Mr. Singh explained to us that since the standard of living in rural India is far simpler than what most Americans are accustomed to, a plant of this size provides an Indian farm family with all the energy they need for cooking and lighting.

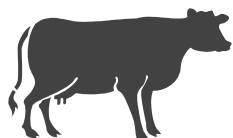
In this country, the gas produced from a continuous-feed plant the size of ours (assuming-feed that proper care is given to the carbon-nitrogen ratio of raw materials) should be more than efficient to meet the needs of an average household, with some fuel left over for gas lights, gas refrigerator, etc. (if you can find them). As for the slurry, every homestead worth its salt has a good-sized garden and a few crops. With all due respect for compost piles, we've never seen anything else do as much for the soil as quickly as an application of bio-gas slurry."

More to follow in next installment.

Text 84495 (30 lines)  
From: IFAST (Inst. For Applied Spiritual Technology) (Aja dās)  
Date: 6-Apr-95 00:59 EDT  
Reference: Text 84465 by ISCOWP (Balabhadra Dās & Chāyā Dāsī)  
To: Cow (Protection and related issues) [466]  
Subject: dung

W O W !!!

It sounds as if a methane digester as you described



could turn Gītā-nagarī's unproductive herd into a transcendental natural resource gold mine and do genuine wonders for the community! They have 99 cows and oxen more than happy to provide unlimited raw materials for such a process. What, specifically would be involved in such an undertaking?

I assume we would want to make something small to test the process. Has this already been tried there? If so, is there anything we could fix and try again?

Bhakti-Tīrtha Maharaja is very enthusiastic about doing as much as possible for Gītā-nagarī, and this kind of project could bring great interest and curiosity to the community, as well as helping those poor cows and oxen feel more like contributors to society. Besides, what do you think having a state-of-the-natural-art methane digester-farm community on display in Pennsylvania could do for the "Increasing worldwide reputation" petal? Perhaps I'm getting a little too excited, but I'd really like to discuss concretely the possibility of making a test digester up there so that a proper study & proposal could be made to the leaders. Maybe it's just a dream, maybe not.

ISCOWP REPLIES ( 4/9/95)

In response to Aja Prabhu's letter of April 6<sup>th</sup>, we do not feel you are getting overly excited about the preaching potential of a self-sufficient community practicing lifetime cow protection, utilizing the oxen for growing its foodstuffs and utilizing the bovine manure in an ecologically efficient and beneficial way.

Milk, labor to till the fields and dung are some of the major contributions of Lord Kṛṣṇa's most beloved animal, the cow.

No, there was no methane digester built at Gītā-nagarī. Many years ago our idea for a methane digester at Gītā-nagarī was negated. The original idea was to have a good size digester at the barn

but the question arose as to how to transport the gas to the needed areas of the farm. Problems with cost, etc., became evident. The next idea we had was to have smaller digesters at designated needy spots, i.e. kitchen, etc. Then there is created an occupation for someone of moving the manure to the various digesters.

More on that on the next installment. This installment will be confined to the building of a small digester servicing the dung of approximately 4 cows. This is a somewhat abbreviated explanation; the full explanation with diagrams can be found in the same book reference given in the last installment.

Also this explanation is from Sharon & James Whitehurst who took instruction from the authority on the subject, Ram Bux Singh.

“A plant like ours is not a major feat of engineering, and we think that most experienced do-it-yourselfers should be able to build one following our instructions and diagrams. We should warn you, though, that some experience with welding and cutting metal is necessary: we used a 180-ampere arc welder and acetylene torch.

Physically, the bio-gas plant consists of a tank to hold wastes, an agitator, and a gas dome, which slides up or down on a center guide pipe according to the volume of gas within. Most of the materials for constructing the unit were purchased at a local salvage yard. The cost for the entire plant, including materials, some outside labor, and the excavation of the site, came to between \$600 and \$800.

### The Tanks

For the main tank of our digester we used an old iron boiler 5 ½ feet in diameter and 16 feet deep. Any sturdy container of this approximate size will do as well, so long as it will hold liquid without leaking. An old gasoline storage tank would be fine. The main thing to remember if

you use a different-sized tank than ours is to build your gas dome at least 6 inches less in diameter than the diameter of the tank so the dome will not bend. If it does, the pressure of the gas will force itself out and escape into the air. Our boiler cost \$200 and was the largest single expense involved in the project. (Both ends were out of this boiler when we acquired it; if you find one with one end on, go right ahead, no problem).

We welded two cross braces across the tank-one at a depth of 4 ½ feet from the top. We positioned these slightly 1 ¼ inches off the center, as their purpose is to hold a center pole in place. The center pole is a 2 ½ inch pipe centered in the tank, bolted to the cross braces, and extending 4 feet above the top of the tank.

Next we attached the heating coil. This coil allows waste hot water from bathtub, washing machines etc., to be carried out to the tank via a hose, and circulated around the tank. The hot water helps to keep the tank warm in cooler weather. (The optimum temperature for digestion is 95 degrees F). We then welded 6-inch braces of angle iron in a circular pattern of a 6-foot intervals around the lower half of the tank to support the heating coils. We bought approximately 55 feet of 2-inch galvanized pipe for the heating coils. We had to take the pipe to a local plumber who bent it into a 4 ½ foot spiral form.”

The discussion continues for another two paragraphs on the construction of the tanks, then the gas dome, the agitator and the location and assembly receive a few paragraphs each. So, more later.

From: IFAST (Inst. For Applied Spiritual Technology) (Aja dās)

Date: 10-Apr-95 25:36 EDT

Refernce: Text 85004 by ISCOWP ( Balabhadra Dās & Chāyā Dāsī)

To: Cow (Protection and related issues) [468]  
Subject: dung

Thank you for answering with such detail ( and for confirming that I am not overly excitable <g>).

Your most recent text raised at least one most important question.....How do you store & transport methane? It seems rather dangerous, especially if one is fabricating his own containers. Is bottling in small, convenient quantities practical? How about pipelining?

Please share your experiences and recommendations in these areas. Thousands upon thousands of thanks!

The following excerpt from a book we highly recommend on the topic should answer most if not all, these questions. The book is; BIO-GAS PLANT, Generating Methane From Organic Wastes & Designs With Specifications, by Ram Bux Singh, Gobar Gas Research Station, Ajitmal, Etawah(UP) India, 1975. This book is currently being printed by MOTHER'S Print Shop. P O. Box 70, Hendersonville, N.C. 28739, USA.

"Gas is collected in the small plants and in the two stage large plants by means of a metal drum inverted over the surface of the fermenting slurry. This is free to rise and fall inside the tank as gas accumulates and is withdrawn. The sides of the drum are inside the slurry, which seals it from the air and prevents the gas from escaping. The weight of the drum provides the pressure which forces the gas out of the tank (through a small valve hole in the top of the drum) to its point of use. The drum might have to be counterweighted. On a 5' diameter plant the surface area of the slurry is about 2,827,44 square inches (2.5 times 2.5times 3.1416 times 144). A gas holder for this size plant might weigh about 550 pounds, which means it exerts only about.2 lb. per sq. in. of pressure on the slurry surface. The radius of the drum should not be more than

3' smaller than the radius of the digester so the minimal slurry is exposed to the air. In a two stage gas plant, the gas collector over the secondary digester will not have to be very large as compared to the primary digester's collector. If gas is to be used regularly. The collector of any gas plant can be as small as 50% of the total daily production. If the gas will only be used at irregular intervals, the holder should be large enough to accommodate accumulation during the off period.

The drums should never be counterweighted so much that the yare at negative pressure with respect to the atmosphere. This will cause air to enter any leaks in the line and travel back towards the digester. Oxygen will destroy the anaerobic conditions inside. More serious is that the methane/air mixture might become explosive. Gas lines (yes, Aja Prabhu pipelining is a means of transporting the methane gas) should not be longer than 100 feet from a holding tank. They should be at least 1 " diameter for small plants and 2" or 3" for medium or large plants. If it is required to take the gas more than 100 feet from the plant, a separate water scaled gas holder should be installed every 100" - 125" along the way. Gas maybe transferred from one to the next with valves opened going forward and closed going backward. This will force the gas from drum to drum towards the place it will be used. The intermediate tanks can be quite small as they will never be called upon to hold very great quantities of gas at a time. This system can be clumsy if gas must be transferred very great distances: for this, a special gas pump should be installed. "

Another good resource on the subject is (Hare Kṛṣṇa dd has given us this one): Updated Guidebook on Bio Gas Development, Energy Resources Development Series, no 27, United Nations, New York 1984 Economic and Social Commission for Asia and the Pacific, Bangkok, Thailand. We will give information on bottling the gas in the next installment.

Yrs,  
Balabhadra dās & Chāyadevī dāsi



(Before we submitted another entry Vyāpaka Prabhu submitted the following interesting facts.)

Text 86433 (52 lines)

From: Internet: Robert

Cope<vyapaka@gmgatc.vireorn.com>

Date: Tuesday 13:36 WET

To: Cow (Protection and related issues)[476]

Subject: dung

During the growing season I am employed as a farm inspector in the organic foods industry. I verify that the farmers are growing according to established organic standards. In these standards there is some mention on the use of slurry, i.e. the by product of manure after it is being stored in an anacrole (without air) situation which is the situation with biogas digesters. Here it is stated that: "The composting process is much more difficult with liquid manure (slurry systems). While liquid manure can be valuable as a soluble fertilizer for spurring plant growth, it may have a long term deleterious effect on soil health. This slurry can be mixed with dry organic materials for composting, or aerated with an additional carbon source to create amore stable, biologically active product ..... Off the top of my head I cannot describe the effect of slurry on soil health, but it is something that I would encourage anyone who is considering digesters to research.

Respectfully,

Vyāpaka dās

PS.

I just picked up the winter issue of "Sustainable Farming" and there was an article there entitled "Building Biological Integrity Can Boost Farm Financial Rewards" by Jeff Quinn.

Jeff was quoting a long time organic farmer in Michigan, Joe Scrimger, and the article touched briefly on anaerobic and aerobic decomposition. I thought that those considering the use of biogas digesters may find it of interest.

**ENCOURAGING HEALTHY SOIL** Scrimger said one of his goals is to activate the soil biology to produce a more dynamic, effective efficient response to changing growing conditions. The concept of biological integrity implies completeness, balance and vitality in the organization and function of a living system. A healthy soil will naturally help buffer the crops from moisture and nutrient deficiencies while conferring disease and pest resistance without the need for purchased inputs.

Scrimger's focus is on encouraging proliferation of the sod's living organisms. He believes that probably the reduction in the diversity and biomass of soil biology is the current situation in agriculture that has cost farmers more than anything else in terms of production efficiencies. 'Soils typically have one or two tons of total biomass per acre, but they should have more like five to six tons,' said Scrimger.

To improve the soil's carrying capacity for living organisms, the basic needs of air, water, food and shelter must be addressed.

#### ENHANCES SOIL'S ABILITY

Scrimger's fertility program for his soil starts by getting adequate calcium to release and be available for life processes. The flocculating (fluffing) effect of adequate calcium, or the base exchange of the soils, enhances the soil's ability to breathe,' he explained. 'Getting oxygen in and carbon dioxide out supports aerobic activity, but this occurs only to the depth air can penetrate the soil profile. Aerobic digestion of crop and cover crop residues is inherently more efficient than their anaerobic breakdown,' said Scrimger. Scrimger's ultimate goal is to maximize the assimilation of carbonaceous residues into stable hum humus, which in turn will also support a larger biomass.

'The inclusion of anaerobic decomposition anywhere in the farm productions system will

short circuit the long term profitability of the farm.' The inclusion of anaerobic decomposition anywhere in the farm productions system will short circuit the long term profitability of the farm,' he emphasized. Citing anaerobic manure storage as an example, Scrimger explained that even though more of the nitrogen is 'conserved' as opposed to composting, this nitrogen is mostly in inorganic water soluble form. Heavy losses from leaching, particularly at the time of application only creates pollution and waste.

#### SHIFTING SOIL BALANCE

'Any surge of nitrogen release in excess of 70 lbs. per acre will negatively shift the soil balance and favor weed proliferation at the expense of crop vigor,' cautioned Scrimger. In contrast, organically stabilized nitrogen in association with the humified carbons of good compost are basically non-leachable, yet available to the plant over the entire growing season,' he said.

'The expression of biological efficiencies can only be achieved under a balanced fertility program where excesses, particularly, of nitrogen and potassium are avoided,' said Scrimger. 'It only makes sense to have the nutrients available at the time the growing plant really needs it but often the natural release mechanisms are made dormant with heavy fertilizer applications at planting time,' he said.

Of course, Scrimger is not referring to applying small quantities of biogas digester slurry on the farm but it is still best that caution should be taken on the rates of application for the slurry. It seems that the organic standard's suggestion of mixing the anaerobic slurry into the traditional compost pile as mentioned in my previous submission maybe wise advice. Certainly, biogas digesters can play an important role in fulfilling a community's energy needs.



#### Cow Dung a Good Nuclear Shield?

From: Kṛṣṇa-kṛpā(dās) SDG (BI) (Alachua, FL - USA) <Krsna-krpa.SDG@pamho.net>  
To: ISCOWP (Balabhadra Dās & Chāyā Dāsi - USA) <ISCOWP@pamho.net>  
Subject: Cow dung a good nuclear shield?  
Date: Thursday, January 02, 2003 11:20 AM

The following article is from THE TIMES OF INDIA, THURSDAY, JANUARY 2, 2003 and is at:[http://timesofindia.indiatimes.com/cms.dll/html/uncomp/articleshow?art\\_id=33105252](http://timesofindia.indiatimes.com/cms.dll/html/uncomp/articleshow?art_id=33105252)

Cow dung a good nuclear shield?

TIMES NEWS NETWORK[ THURSDAY, JANUARY 02, 2003 01:09:18 AM ]

LUCKNOW: Does cow dung actually has anti-radioactive properties? Scientists may scoff at the question but the `gau-bhaktas' led by chairman of the UP Gau Seva Ayog Radhe Shyam Gupta firmly believe that houses painted by cow dung could be the safest shelters in the event of a nuclear strike.

Interestingly, now the state government has also joined the fray. In an attempt to take the controversy to its logical conclusion, it has decided to have the theory scientifically validated. According to the minister for animal husbandry Laxmī Kant Bajpai, the department was seeking scientific scrutiny of the claims made by the Ayog chairman. Samples of cow dung-based distemper developed at the Kanpur Goshala Society at Panki will be forwarded to the Bhabha Atomic Research Centre for necessary tests, he disclosed to the reporter on Thursday.

"There is enough traditional evidence to support the theory, but we are looking for scientific clearance of these claims as well," he said. The

society has developed the distemper in five earthy colours (with 30 per cent dung content) and even tiles using the same as its base.

"At the moment, the production capacity is limited, but once the claim is scientifically validated we will step it up to meet the requirement," says an optimistic general secretary of the society Purushottam Toshniwal who already anticipates a bumper demand from all over the country.

Toshniwal dismisses all doubts over the issue summarily and claims to have approached top nuclear scientists for intervention in past. "I had been wanting to set the controversy at rest for long but as BARC does not test samples sent by non-governmental bodies, I had little options," he says.

Finally he requested the government to be a party and approach the institute and the minister concerned has already given green signal to the proposal, he told the Times News Network.

The colours, he claimed were aesthetically pleasing and could match the quality of the best brands available in the market. The more popular colours on the shelf at the moment were a chic vermilion - a mix of turmeric and lime as colourant, dark maroon and deep olive, he informed. The catchword he uses to tout his ware - perfect 'coat' of protection - ethnic, appealing and economical.

### **Medicinal Use of Cow Urine Receives U.S. patent**

From: Nirguna <nirguna108@vsnl.com>

To: <iscowp@earthlink.net>

Subject: Hindu News Today's Headlines  
Medicinal Use of Cow Urine Receives  
US patent

Date: Thursday, July 11, 2002 5:00 AM

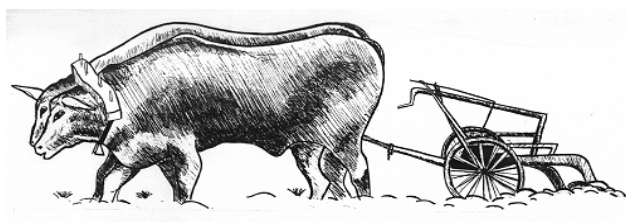
2002-07-08 Published by Hinduism Today  
Gathered by Staff Reporter

NEW DELHI, JULY 8: Joint research conducted by the Scientists of Central Institute of Medicinal and Aromatic Plants, a Central Scientific and Industrial Research (CSIR) laboratory, and Go-Vigyan Anusandhan Kendra, Nagpur, has resulted in the granting of a US patent for a unique pharmaceutical composition, announced Union Minister Murli Manohar Joshi.

The research discovered the unique bio-enhancing activity in a specific cow urine distillate, which enhances the anti-microbial effects of antibiotic and anti-fungal agents. Cow urine has been used for its medicinal properties in India since ancient times and has been described as a substance/secretion with innumerable therapeutic values in "Sushrita Samhita" and "Ashtanga Sangrah."

This contemporary finding is the synergy of Indian traditional wisdom and modern science. The impact of this novel patent will be on reducing the dosage of drugs to get a given therapeutic effect. It will also reduce the cost of treatment and the side-effects due to toxicity, according to the details of the research paper.

Joshi also believed the achievement would give impetus to the traditional researchers of the country. Details of the cow urine patent, entitled Pharmaceutical composition containing cow urine distillate and an antibiotic, #6,410,059, are available at the US Patent Office website: [www.patft.uspto.gov/](http://www.patft.uspto.gov/)



## **DUNG IS GOLD MINE**

*by Shri Venishankar M. Vasu*

Published by: Viniyog Parivar Trust

B-2/104, Vaibhav, Jambligali,

Borivli (WEST), Mumbai-400 092

TEL.807 7781/802 0749

FAX: 91-22-802-0749

### **PREFACE**

One of the few nectars of this world is water, another is milk and the third one is cattle dung. With onset of what we call "modern civilization", we have been despising a few things and one of these is cattle dung. This is so because we have forgotten that the basis of our progress as a race depends on the optimal use of our resources, an important resource base being bovine dung. If a choice before mankind were put in crystal clear terms as to whether it chooses cattle dung or desertification of the earth, it would have definitely shed its despise for cattle dung and chosen it between the two.

Shri Venishankar M. Vasu has brought out in simple language but with hard facts, figures and proofs the consequences of government policy of slaughtering animals which are either not yielding milk or are useless as draught animals. The government has forgotten the third most important service rendered by animals i.e. providing dung which has been at the root of well laid out social and economic systems adopted by the Aryan population of this great nation since time immemorial.

The policies of state patronized, encouraged and rewarded violence have engulfed all living beings. This has happened due to the destruction of the concept of dung utility and espise for cattle dung.

The purpose of this essay is to highlight the unique and essential role of bovines and bovine dung in our economy and lifestyles and to stop the slaughter of our precious animals.

## **THE ONLY SOLUTION TO PROBLEMS OF SHORTAGE OF FOOD GRAINS, WATER, FUEL, SHELTER, GOOD HEALTH, NUTRITION, ERADICATION OF POVERTY, AND UNEMPLOYMENT - DUNG, DUNG AND ONLY DUNG !!**

What is despised of today by giving it the name of "dung-economy" is in fact the nucleus of prosperity of the Indian people. And that is why our ancient economists have described dung as the abode of wealth and prosperity and thereby impressed upon the unique utility of dung in relation to the Indian economy.

If we accept the concept that dung is the nucleus of our prosperity and has no substitute, the following will follow:

- Fertilizer will be cheaply available to us.
- Food grains can be produced and made available at reasonable rates.
- Our soil will retain its fertility.
- Cheap fuel will be available to the masses.
- Cheap housing can be provided in the rural areas.
- Our ancient system of medicine i.e. Ayurved cannot subsist in the absence of dung and the absence of dung has put in peril the health in particular of our women.

I bow in reverence to such obliging ruminants on behalf of humankind!

With growing age, an animal may become useless for milk production, field work or for breeding. However, its age is never a detriment to its service of providing dung.

By unfettered breeding of cattle, the government has snatched away the availability of precious dung from the people and pushed the entire population in the dungeon of starvation, drought, poverty and chaos in all spheres of life.

And hence, Oh! my fellow countrymen, awake, rise and call for a halt to the government machinery and order them to reverse the policy which they have set in to snatch away the precious wealth of dung from our life.

As a result of disruption in the availability of dung, we have suffered on many fronts, like:

1. Food grains have become costly and without the required nutritional value.
2. Loss of soil fertility.
3. Diminished opportunity to practice several vocations for both Hindu and Muslim population.
4. The health of crores of women in the country at peril
5. Our religious rights snatched away.
6. Ayurved, our ancient system of medicine has suffered a severe blow
7. Fuel has become scarce and costlier.
8. Ash of dung very valuable to us is not available now.
9. The flow of passing on lessons of rich experience from one generation to the other has stopped.
10. Our forests are gradually being destroyed.
11. Many social evils like addiction to liquor have become widespread.
12. An acute scarcity of residential houses.

### **GROWING NUTRITIOUS AND CHEAP FOOD GRAINS**

No other fertilizer in the world is as cheap and harmless as dung fertilizer. The Indian farmer is able to grow the best and cheapest food grains in the world with the help of dung manure. This alone is capable of providing stability to the Indian economy.

However, due to western influence the government of India has resorted to unfettered slaughter of animals resulting in disruption of availability of cattle dung, forcing farmers to use costly and harmful chemical fertilizers, thereby pushing up the prices of food grains an

and ultimately affecting the entire economy by throwing it in the dungeon of inflationary pressures. By cutting down the availability of bullocks and forcing the use of tractors, another dimension has been added to the entire murky affair.

As a result, the once independent Indian farmer has now become dependent on others for availability of chemical fertilizers and tractors. He has become dependent on fertilizer plants, railways and money lenders or banks. The farmers have been pressurized into using chemical fertilizers by resorting to false propaganda about the advantages of chemical fertilizers. Besides, he is left with no other option because natural dung manure is not available to him. The use of chemical fertilizers might have marginally increased agricultural production. However, the cost of production has increased manifold and in addition the taste as well as the nutritional value from food grains have been lost.

Rice is one of the main crops in our agricultural system. A major part of our land is under cultivation of rice and quantum-wise also, the maximum production is of rice and hence these figures relate to rice only. The table (1.1) indicates rising cost and production of rice per hectare in a few states with use of chemical fertilizers in India. This table (refer to following page) indicates that increase in production cost per hectare was on an average 100% while production has remained almost static.

Jowar and bajra is the staple food of vast majority of poor people in India. What happened to their cost of production in relation to production in absence of dung manure is clear from table 1.2 (page 121).

Jowar and bajra are the staple diets for the poor and the stalk of these plants, which is the main food for cattle, have registered a growth in production expenses by 47% whereas its production has increased by only 5.5%.

**Table 1.1: Increase in rice production costs per hectare with use of chemical fertilizers as compared to yield.**

| State          | Year    | Total production cost of rice rs. per hectare | Production per hectare (2.5 acres in quintals) | Production expenses/quintal Rs. |
|----------------|---------|-----------------------------------------------|------------------------------------------------|---------------------------------|
| Andhra Pradesh | 1971-72 | 1476.33                                       | 25.22                                          | 51.53                           |
|                | 1980-81 | 3873.76                                       | 33.77                                          | 104.94                          |
| Assam          | 1971-72 | 841.57                                        | 16.23                                          | 49.9                            |
|                | 1980-81 | 1695.52                                       | 21.34                                          | 76.24                           |
| Bihar          | 1972-73 | 1188.65                                       | 17.03                                          | 50.03                           |
|                | 1979-80 | 2082.7                                        | 16.88                                          | 109.82                          |
| Karnataka      | 1973-74 | 2092.85                                       | 33.17                                          | 51.13                           |
|                | 1975-76 | 2600.82                                       | 32.36                                          | 69.36                           |
| Orissa         | 1971-72 | 837.96                                        | 16.84                                          | 40.13                           |
|                | 1979-80 | 1663.91                                       | 15.61                                          | 83.25                           |
| Tamil Nadu     | 1971-72 | 1616.18                                       | 26.16                                          | 53.47                           |
|                | 1979-80 | 3596.56                                       | 33.88                                          | 92.24                           |
| Uttar Pradesh  | 1975-76 | 1753.82                                       | 21.35                                          | 73.06                           |
|                | 1980-81 | 2563.88                                       | 22.63                                          | 94.01                           |
| West Bengal    | 1971-72 | 1255.89                                       | 18.39                                          | 54.15                           |
|                | 1978-79 | 1573.88                                       | 22.33                                          | 96.36                           |

*Indian Agriculture in Brief Published by Agriculture Ministry of Central Government. 19th Edition pp 274-279*

If agriculture was based on the services of bullocks alone, and instead of chemical fertilizers only had dung or natural manure been used, the farmer would have been spared of the investment in tractors and the interest cost of such investments or the rent of hiring tractors. He would have been spared of the heavy cost of chemical fertilizers and interest, the cost of pesticides, the investment cost in motor pumps and its interest cost and the cost incurred for diesel or electricity for running such motor pumps. Thus he would have been spared a lot of heavy and at the same time unnecessary expenses which now get added to his cost of production.

By burdening the farmer with unnecessary expenses, the cost of production for farmers has increased beyond their capacity. The food grains have become very costly, which has given rise to various agitations, riots, strikes by farmers demanding rise in prices of agricultural produce, and resultant chaos all over the country.

Surprisingly, even after allowing the price increase to farmers because of violence and agitation, the farmers have not been benefited. The farmer has become a pawn in the hands of powerful exploiters who are exploiting the entire population through their evil designs. The price increase secured by farmers has been shared

TABLE 1.2 Comparison of rising costs for jowar and bajra with static yields.

| State          | Year    | Production cost per hectare (in Rs.) | Production per hectare (in quintals) | Production expense per quintal (in Rs.) |
|----------------|---------|--------------------------------------|--------------------------------------|-----------------------------------------|
| <b>JOWAR</b>   |         |                                      |                                      |                                         |
| Karnataka      | 1971-72 | 394.62                               | 6.18                                 | 45.06                                   |
|                | 1975-76 | 638.6                                | 6.44                                 | 80.62                                   |
| Maharashtra    | 1971-72 | 471.27                               | 5.73                                 | 57.03                                   |
|                | 1978-79 | 716.32                               | 7.12                                 | 71.7                                    |
| Andhra Pradesh | 1973-74 | 477.27                               | 4.29                                 | 82.71                                   |
|                | 1975-76 | 628.06                               | 4.01                                 | 117.64                                  |
| <b>BAJRA</b>   |         |                                      |                                      |                                         |
| Gujarat        | 1971-72 | 649.58                               | 8.72                                 | 49.67                                   |
|                | 1978-79 | 1582.51                              | 16.4                                 | 74.79                                   |
| Haryana        | 1972-73 | 814.31                               | 5.31                                 | 111.41                                  |
|                | 1975-76 | 844.36                               | 7.51                                 | 64.54                                   |
| Rajasthan      | 1970-71 | 309.74                               | 8.41                                 | 36.82                                   |
|                | 1975-76 | 329.46                               | 2.39                                 | 108.38                                  |

between oil and diesel producing countries and manufacturers of chemical fertilizers, tractors, pesticides and government agencies, leaving the farmer where he was!

And hence, if anybody is responsible for agitation, riots, strikes, etc. aimed at securing increase in agricultural produces, it is the government functioning under the malicious guidance of western institutions. The government has endangered the interest of the masses by stopping the flow of cattle dung, and thus they have committed an inexcusable crime. Why should the people of this nation not put them on trial for this crime?

#### LAND HAS LOST ITS FERTILITY

If the nutritional elements from soil which are consumed by crops are not replenished after each crop season, the soil loses its fertility gradually. The food grains grown on such soil become nutritionally poorer and eventually the land becomes barren and gets transformed into a wasteland.

Table 1.3 shows the quantum of nutritional elements absorbed by crops from the soil, indicated as per acre consumption.

To replenish such nutrients consumed by crops from the soil, cattle dung or organic manure, is

**TABLE 1.3:** *The quantities of plant nutrients removed from soil by different crops (kg./ha)*

| <b>CROP</b> | <b>Yield (grain)<br/>kg/ha</b> | <b>Nitrogen (N)</b> | <b>Phosphoric</b> | <b>Potassium</b> |
|-------------|--------------------------------|---------------------|-------------------|------------------|
| Rice        | 2240                           | 34                  | 22                | 67               |
| Wheat       | 1568                           | 56                  | 24                | 67               |
| Jowar       | 1792                           | 56                  | 15                | 146              |
| Bajra       | 1120                           | 36                  | 22                | 66               |
| Maize       | 2016                           | 36                  | 20                | 39               |
| Barley      | 1120                           | 41                  | 20                | 35               |
| Sugar cane  | 67200                          | 90                  | 17                | 202              |
| Groundnut   | 1904                           | 78                  | 22                | 45               |

*"Handbook of agriculture" (1987) pp.213 Indian Council of Agricultural Research (ICAR)*

the best, cheapest, harmless and most easily available manure.

Now, let us have a look at nutrients contained in dung and urine of different animals which help in restoring fertility to the soil. The following table 1.4 indicates the contents of some of the basic nutrients of dung manure.

Thus, if soil has to be prevented from becoming barren, it is necessary to apply 10 bullock cart

loads or 5 tonnes of dung manure for each acre of land. The remaining shortfall in maintaining fertility of soil is made up by dung and urine of sheep and goats which wander on farms everywhere.

The Indian council of Agricultural Research has found by experiments that if farms are properly ploughed and if 5 tons of dung manure is used for each acre, then our agricultural land is capable of giving the following yields of crops per acre: (Table 1.5).

**TABLE 1.4** *The average nutrient contents of manure*

| <b>TYPE OF MANURE</b>                     | <b>% Nitrogen (N)</b> | <b>% Phosphoric acid<br/>(P2O5)</b> | <b>% Potash</b> |
|-------------------------------------------|-----------------------|-------------------------------------|-----------------|
| Dung of cow/buffalo                       | 0.3 -0.4              | 0.1 -0.2                            | 0.1 -0.3        |
| Horse dung                                | 0.4 -0.5              | 0.3 -0.4                            | 0.3 -0.4        |
| Dung of sheep and goat                    | 0.5 -0.7              | 0.4 -0.6                            | 0.3 -1.0        |
| Cow/buffalo urine                         | 0.9 -1.2              | NIL                                 | 0.5 -1.0        |
| Horse urine                               | 1.2 -1.5              | NIL                                 | 1.3 -1.5        |
| Sheep/goat urine                          | 1.5 -1.7              | NIL                                 | 1.8 -2.0        |
| Dry compost manure                        | 0.7 -2.0              | 0.9 -3. 0                           | 1.0 -2. 0       |
| Waste from stable cows/buffalos or horses | 0.4 -1.5              | 0.3 -0.9                            | 0.6 -1.9        |

*"Handbook of Agriculture" (1987) pp. 215, Indian Council of Agricultural Research (ICAR)*



TABLE 1.5:

*Yields of different food crops in soil enriched by optimum levels of bovine dung.*

| <b>Food grain</b> | <b>yield (lbs)</b> | <b>yield (kg)</b> |
|-------------------|--------------------|-------------------|
| Rice              | 2000               | 900               |
| Wheat             | 1400               | 630               |
| Jowar             | 1600               | 720               |
| Bajra             | 1000               | 450               |
| Maize             | 1800               | 850               |
| Barley            | 1000               | 450               |
| Sugar cane        | 60000              | 27000             |
| Groundnut         | 1700               | 765               |

*Handbook of Agriculture (1969) (ICAR) pp.103*

TABLE 1.6

*Yields of different food crops grown on soil with sub-optimum levels of cow dung inputs*

| <b>Food grain</b> | <b>Yield (lbs)</b> | <b>yield (kgs)</b> |
|-------------------|--------------------|--------------------|
| Rice              | 962                | 433                |
| Wheat             | 1277               | 575                |
| Jowar             | 611                | 275                |
| Bajra             | 380                | 152                |
| Barley            | 833                | 375                |
| Maize             | 862                | 338                |
| Sugar cane        | 45000              | 20000              |
| Groundnut         | 709                | 319                |

*"India"- (1981) pp.201*

However, when sufficient natural manure is not available, the productivity of crops per acre gets reduced as indicated by the following table 1.6.

Let us have a look at two other proofs which indicate the importance of natural manure. In a book titled "Cow in India" by Dr. Satishchandra Dasgupta, on page 43 and 562 the following indication about utility of natural manure can be found.

In three farms of equal sizes, the first farm was covered with 2 1/2 " thick layer of natural manure and was cultivated. In the second farm, the layer was only 1/2" thick and in the third farm, no

TABLE 1.7

|             |                 | Rice<br>(lbs) | Grass<br>(bundles) |
|-------------|-----------------|---------------|--------------------|
| First farm  | (2 1/2" manure) | 422           | 138                |
| Second farm | (1/2" manure)   | 236           | 106                |
| Third farm  | (no manure)     | 60            | 40                 |

natural manure was used. The results are above in Table 1.7. These results make it clear that the yield in the first farm was 6 and 31/2 times greater for rice and grass compared to the third farm which was without any natural manure.

In another example in the government dairy on Telan Kheri when cow and bullock dung were used as manure on the farm, the annual yield of crop increased significantly with this practice. (Table 1.8) and that of grass by 54.5%! Can chemical fertilizers do this without adversely

affecting the capability and fertility of land? Why then are people burdened with huge capital expenses in setting up chemical fertilizer plants?

Indian agriculture is burdened by more than Rs 1,500 crores as additional costs every year. The subsidy provided by government, of this additional burden is Rs 400 crores, which the government collects from people by way of taxes. The remaining Rs 1100 crores is recovered by the farmer by increasing the price of food grains.

TABLE 1.8 Cumulative increase in yields of crop and grass grown on soil enriched by bovine dung.

| YEAR    | YIELD             |                  |
|---------|-------------------|------------------|
|         | Grass<br>(mounds) | Crop<br>(mounds) |
| 1932-33 | 12,595            | 219              |
| 1933-34 | 12,694            | 506              |
| 1934-35 | 18,028            | 350              |
| 1935-36 | 15,148            | 529              |
| 1936-37 | 18,272            | 634              |
| 1937-38 | 19,473            | 610              |

Report of Industrial Survey committee, Volume II

**TABLE 1.9-**  
*Subsidies provided in the Central budget from 1990-91 to 1997-98 (Rs in crores)*

| Particulars                                                | 90 -<br>91   | 91-92        | 92-93        | 93-94        | 94-95        | 95-96        | 96-97        | 97-98        |
|------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>1) Food and fertilizer Subsidies:</b>                   |              |              |              |              |              |              |              |              |
| Food                                                       | 2450         | 2850         | 2800         | 5537         | 5100         | 5377         | 6066         | 7500         |
| Indigenous (urea) fertilizer                               | 3730         | 3500         | 4800         | 3800         | 4075         | 4300         | 4743         | 5240         |
| Imported (urea) fertilizer                                 | 659          | 1300         | 996          | 762          | 1166         | 1935         | 1350         | 1950         |
| Fertilizer subsidy to small and marginal farmers           | 0            | 385          | 0            | 0            | 0            | 0            | 0            | 0            |
| Export promotion and market development                    | 2742         | 1758         | 818          | 665          | 658          | 16           | 400          | 440          |
| Sale of decontrolled fertilizer with concession to farmers | 0            | 0            | 0            | 0            | 528          | 500          | 1674         | 2000         |
| <b>TOTAL</b>                                               | <b>9581</b>  | <b>9793</b>  | <b>9414</b>  | <b>10764</b> | <b>11527</b> | <b>12128</b> | <b>14233</b> | <b>17130</b> |
| <b>2) Debt Relief to Farmers</b>                           | 1052         | 1425         | 1500         | 500          | 341          | 0            | 0            | 0            |
| <b>3) Other subsidies:</b>                                 |              |              |              |              |              |              |              |              |
| Railways                                                   | 283          | 312          | 353          | 412          | 420          | 418          | 466          | 537          |
| Mill made cloth                                            | 10           | 15           | 15           | 16           | 0            | 1            | 0            | 0            |
| Handloom Cloth                                             | 185          | 187          | 161          | 174          | 148          | 143          | 98           | 84           |
| Import/export of Sugar, Edible oils, etc.                  | 0            | 0            | 0            | 0            | 0            | 100          | 50           | 50           |
| Interests subsidies                                        | 379          | 316          | 113          | 113          | 76           | 34           | 1257         | 34           |
| Assistance for fertilizer promotion                        | 0            | 0            | 340          | 517          | 0            | 0            | 0            | 0            |
| Other subsidies                                            | 218          | 205          | 99           | 186          | 420          | 481          | 590          | 416          |
| <b>TOTAL SUBSIDIES</b>                                     | <b>12158</b> | <b>12253</b> | <b>11995</b> | <b>12682</b> | <b>12932</b> | <b>13305</b> | <b>16694</b> | <b>18251</b> |
| Percentage of Food and fertilizer subsidy to total subsidy | 79%          | 80%          | 78%          | 85%          | 89%          | 91%          | 85%          | 94%          |

*Source: Rajya Sabha Unstarred question , 2270*

Thus, the poor population, which consumes the food grains produced with use of chemical fertilizers, is crushed between the farmer on one hand and government on the other. The high prices of food grains are the root cause of ever increasing inflation in our economy.

(Note: The figures of subsidy, quoted by the author, looked worrisome in the eighties but are peanuts compared to the subsidy burden in the nineties as indicated by the following figures in Table 1.9)

In view of this situation only, some time ago our (late) Prime Minister, Mrs. Indira Gandhi, during her broadcast, had advised our farmers to use compost fertilizers which is made by mixture of dung and urine of animals, their left over food in the form of roots of grass, the dead leaves of trees, etc. People must assert their rights to ask as to under whose direction and under whose pressure, the Government machinery and its bureaucrats are burdening the people with such unbearable and expensive cost of fertilizers.

### **MILLIONS OF HINDU AND MUSLIM FAMILIES PUSHED INTO UNEMPLOYMENT**

As a result of large scale slaughter of animals resulting in non-availability of dung, millions of Hindus and Muslims have lost their age-old profession.

1. The dung cake as well as the meat of the bullock are both commercial commodities. If one bullock is slaughtered, its meat (slaughtering activity) can sustain the butchers trade for only a day. For the next day's trade another bullock has to be slaughtered. But if the bullock is not slaughtered, about 5 to 6 thousand dung cakes can be made out of its dung per year, and by the sale of such dung cake, one person can be sustained for a whole year. If a bullock survives even for 5 years after becoming otherwise useless, it can provide employment to a person for 5 years. Whereas a butchered bullock can provide employment only for a day or two.
2. As confessed by the butchers in Gujarat, they slaughter 70 bullocks every day, which means approximately 25,000 bullocks in a year. Thus 25,000 poor women, whether Hindus or Muslims, surviving on sale of dung cakes, which would have been produced by these 25,000 bullocks, are deprived of their source of livelihood which can sustain them for years.
3. The entire Harijan community has become jobless as a result of the policy of animal

slaughter and export of leather. This is so because the free availability of corpses of naturally deceased animals to them is now stopped. Now the living animals are slaughtered in the slaughter houses and the better quality of skin or leather is purchased by Corporate giants for manufacture of leather-ware or for export, whereas inferior quality of leather has to be purchased by the Harijan cobbler, after paying a price for it.

4. A builder in Bombay cannot build houses with mortar, i.e. mixture of cattle dung, clay and horse dung. Our masons in the city also cannot build such a house. Only the potters in the villages can build such a house.

The potters used to build houses in villages using such mixture, and they also used to make roof tiles out of clay for such houses. In the present times, when houses are not made of dung and clay, there is no use for the roof tiles also, and thus the potter has lost his profession. With growing scarcity of dung, houses are no longer made of mixture of dung and clay and as a result, the vocation of making roof tiles connected with this system of housing has also started vanishing.

As per government estimates, the shortfall of houses in the country is to the tune of 31,000,000 (according to "India:1993). The animal dung is the basic material to build houses in villages. If only potter families are engaged in construction of houses in villages, it will need 55 lakh potter families to build 3 crore houses. A similar number of potter families will be needed to make roof tiles, required in billions for covering such houses. Thus dung is the basis to providing an independent profession to about 3 crore potters in our country. However, with the disruption in availability of animal dung, lakhs of Hindu and Muslim potter families had to migrate to cities, and are now dumped as human scrap on the footpaths of large cities and towns. The

potters have fundamental rights to pursue their own business or profession. As a result of lack of knowledge about their fundamental rights, they are unable to demand them in courts of law.

The above situations are just a few examples of how the Indian economy and its vast population has been adversely affected as a result of abandoning what is sarcastically described as "Dung Economy". In reality, the government machinery controlled by bureaucrats educated by western perspectives, working under the dictate of their foreign masters, have deprived the people of this country of their age-old professions by resorting to indiscriminate animal slaughter, and have thus pushed crores of Hindus and Muslims in the dungeon of unemployment and poverty.

The government itself is to blame for the growing unemployment in our country. However, to avoid being blamed for this situation and to divert the attention of people from this criminal conspiracy, a cosmetic effort is made to provide employment to a few thousands, out of crores rendered unemployed, under various government sponsored schemes.

None else but people themselves will have to rise to expose the government and draw public attention to the real situation so that the independent profession of crores of Hindu and Muslim brothers are restored.

### **HEALTH OF 12 CRORE WOMEN IN PERIL**

The female population in our villages in the reproductive age group is 15 crores. They need utmost care at the time of giving birth to a child and immediately thereafter.

For centuries, experienced midwives used to supervise and provide necessary care, as per the principles of Ayurved, to women in village's time of childbirth. Two basic aids for such a system of care were a massage of oil, and fomentation on

fire lit with dung cakes. The midwives used to massage the woman and new born child for 40 days after delivery, with the help of oil and slow fomentation, with the help of heated dung cakes.

However, now the dung cakes have become almost unavailable. Oil also is very costly and hence, poor women are unable to buy it. Thus, if the necessary aids for providing care during childbirth are not available, what is the use of persons providing such care? And thus, lakhs of Hindu and Muslim midwives have lost their centuries old, ancestral and at the same time, very useful profession.

Thus, on one hand, conventional and cheap medical care, available to crores of poor women at the time of their childbirth is snatched away, and on the other, modern and costly medical care is either not available or beyond the reach of the needy. As a result of this situation, in the absence of proper and timely medical care, crores of women get afflicted by various diseases associated with childbirth, and live a painful life thereafter till death.

It is surprising that various organizations and social workers who claim to be working for the welfare of women, or scholars in the field of Ayurved, or any women's organization have not uttered a single word against this criminal carelessness towards child and mother health or have never drawn attention to these problems! Western thinking and philosophy have limited the meaning of liberation of women, only to procure liberties for women to indulge in shameless behavior, permissiveness and abortion.

### **RELIGIOUS RIGHTS ALSO SNATCHED AWAY**

In Hindu culture, there are 16 religious rituals (Sanskar) starting from birth (in fact there is one sanskar even before birth!) to death and none of these rituals can be performed without dung. It is essential to attain or provide purity to

the mind, to the environment or surroundings, to the mental status and to the ingredients which are utilized at the time of performing any religious ritual.

The place where the religious ritual is to be performed is cleaned and made pure by coating it with a layer of cow dung. A fire is often lit with dung cakes, sandalwood, gugal, etc to provide fragrance and cleanse the surrounding environment. It is not possible to do this on fire lit with kerosene or gas or electric stove. For purification of mind and heart while performing any religious ritual, one has to consume what is known as Pañca Gavya i.e. a mixture of cow milk, curd, ghee, dung and urine in defined ratios. The consumption of this mixture is believed to keep mind and heart pure and peaceful. As an automobile cannot be driven when its engine is very hot, similarly when the mind is not at peace, the religious ritual performed in such a state of mind does not give the desired result.

For purification of body there was a practice to smear cow dung on the body and then take a bath. Purification of essential ingredients which are used for offering in the fire, is also necessary and one of the items is cow dung. With cow dung, small dry branches of certain specified trees and some other specified vegetation or herbs are also required.

Till 1915, in the Indian Princely States where cow slaughter was banned, the pyre for consigning dead bodies to fire were lit with the help of dung cakes only. When dung cakes became scarce, this ritual was performed on wood fire. For burning an average dead body, four quintals of wood is required. With depletion of forests, even wood is scarcely available and wherever it is available, it is very costly. In view of this situation, in some of the villages now, a small bundle of burning grass is put on the face of the dead body and then it is buried. Thus the

right of the Hindu population to perform even the last of the 16 rituals i.e. AGNI SANSKAR is snatched away.

Of all the 16 religious rituals referred to earlier, starting from the birth of a human being, till his death, the AGNI SANSKAR is the last of these 16 rituals. It is a fundamental religious right of each Hindu. To protect this right, it is essential that the availability of dung cakes is increased at a very fast pace. When an adult bullock is slaughtered, it affects the Sanskar of 10 persons per year. If a bullock is allowed to live 10 more years beyond the age of its premature death by slaughter, it can provide dung cakes for Agni Sanskar of 100 human beings. If wood is forced (as it is now) to be used for Agni Sanskar in the absence of dung cakes, its cost would be Rs 15 lakhs per tree, as per the valuation done by scientists.

#### **VALUE OF SERVICES RENDERED BY TREES—LAKHS OF RUPEES!**

According to a paper presented in the Indian Science Congress held in Varanasi in January 1981, the valuation of a 15 year old tree at rates prevailing at that time was Rs 15.7 lakhs. The bifurcation of this value was arrived at as under table 1.10.

The estimates do not include the value of fruits and flowers yielded by the tree or the value of its timber when it dies its natural death. The above information was given by Prof. T.M. Dās of Calcutta Agriculture university while delivering his address as chairman of the Indian Science Congress, deliberating on the subject of "Plant and Pollution". This has been reported by Times of India in its 5th January, 1981 issue on page 5.

#### **DESTRUCTION OR SCARCITY OF HERBAL MEDICINES MEANS END OF AYURVEDIC MEDICAL CARE FOR POOR INDIAN POPULATION**

With non availability of dung, our forests also

TABLE 1.10 - Value of a single tree.

|                                                                  | Rs             |
|------------------------------------------------------------------|----------------|
| Oxygen                                                           | 250000         |
| Control of air pollution                                         | 500000         |
| Retention of fertility of soil                                   | 250000         |
| Contribution towards recycling of water and controlling humidity | 300000         |
| Provision for shelter to birds and animals                       | 250000         |
| Protein                                                          | 20000          |
| <b>TOTAL</b>                                                     | <b>1570000</b> |

get destroyed and with the destruction of forests, many āyurvedic herbal medicines also became either extinct or scarce.

How many people can be treated with the costly Bhasma (oxides of various minerals like Gold, Copper, pearls etc.) and how many patients can afford such Bhasma? On the other hand, medicines under Allopathic system are also very costly and beyond the reach of poor people, and thus a vast majority of poor people living in Indian villages, carry on with illness for life, without any treatment.

Herbal medicines are the basis of Āyurvedic system of medicines. Similarly, Bhasmas are also the basis of the system. These Bhasmas must be prepared on fire lit with the help of dung cakes only. If coal or electricity is used to make the Bhasmas, then it will be like running an automobile with kerosene instead of petrol. What happens to an automobile engine if kerosene is used, will also happen to the Bhasmas and the patients who consume such Bhasmas. Many medicines have to be purified before their use and such purification can be done only with the help of dung. In different branches of

Ayurved, paks are made of different medicines, and these paks must also be made on the slow burning dung cake fire only.

Nowadays, because they are made on other types of fire, they do not yield the desired results and hence people have started losing faith in Ayurved.

Thus, by stopping the flow of dung and dung cakes to the Āyurvedic system, the government has dealt a death blow to the system and yet they are not tired of talking about providing encouragement to Ayurved! This is nothing but cheating, and unfortunately the scholars of Ayurved seem to be enjoying this act of cheating on the part of the government.

How could scholars of Ayurved tolerate this state of affairs, when an age old ancient system is put into such peril. On the one hand they talk of encouraging Ayurved, and on the other, there is destruction of the most essential aspects of Ayurved, i.e. herbal medicines, cow's milk and cow's ghee, dung and dung cakes. The duplicity of government policy can be seen from this.

If we have to prevent Ayurved from dying; the oldest of the medical systems, which is well accepted and which has withstood all the challenges to its principles of diagnosis, treatment etc. for centuries; then it is essential that the government be challenged, its duplicity exposed and it be forced to increase dung cake availability in the interest of this great medical science.

If Ayurved as a science eventually dies, it will be due to inaction and timidity and the urge of Āyurvedic scholars to indulge in false flattery of the government machinery.

### **CHEAP FUEL HAS ALSO BECOME COSTLY**

Abundant food grains may be cultivated, but what if there is no fuel to cook the food? We cannot eat raw food grains, and for cooking, fuel is necessary. The cheapest and most easily available fuel are dung cakes. It can be available wherever needed. Its flow is unending.

Till the time our country had not resorted to animal slaughter, the rural population used to get free dung cakes for fuel. The affluent who used to buy dung cakes had to spend only Rs 3 to 5 in a year.

Now people have to use kerosene, which has to be imported from countries which are exploiting to great advantage, the folly of our planners. When Nadirshah came to loot India, he had to cross the Indian border and he also had to fight a fierce battle. Despite this, what he looted from this country and took away with him, was just a drop out of the ocean of the wealth of this nation. Today, the successors of Nadirshah have stormed into the kitchen of every household of our villages with the help of a can of kerosene. They can exploit us at their free will, by increasing the price of kerosene as and when they feel like. They can cut short the supply of kerosene at their will and force us to either eat raw food or to starve or to surrender to the

countries who are their allies and who are unfriendly to us.

This should make it very clear how valuable is the contribution of even a bullock in the field of fuel, and how the sovereignty and security of the nation is connected with it. Gas and kerosene, once used, are lost forever, and they are not renewable sources of energy. The day their availability becomes extinct, it will lead to starvation. Their prices keep on increasing with their increased use and in addition, they create pollution.

With the compulsion to use alternative fuels like kerosene and gas in place of dung cakes, each family has been burdened with an additional annual expense of Rs 1500. Is it not wiser to save this Rs 1500 by reverting back to dung cakes as fuel? There will be an additional saving of about Rs 75 per annum for a family which is spent on washing powders, as the ash of dung cakes which will be freely available can serve the same purpose. This saving can be used to provide food, clothing and education to millions of children, and can be utilized for such other noble purposes.

Potential value of dung as fuel would be clear from the following small calculation India has a population of about 96 crores; 70% of this population i.e. 67 crore people live in rural areas. Considering 5 persons to a family, it means 13.4 families. Dung fuel, if available, can be used by these rural families as was being done only a few decades ago. Due to the non-availability of dung cakes for fuel, other types of fuel are used. For valuation purpose, let us take the value of LPG to assess the fuel cost. The LPG cylinder is on an average priced at Rs 150, and for a family of 5, one cylinder lasts for about a month. Thus each family has to spend Rs 1800 per annum on cooking fuel. Thus for 13.4 crore families, the fuel cost comes to 13.4 crore x Rs 1800- i.e. Rs 24,120 crore.. Thus theoretically speaking, if the entire rural population reverts to dung cake fuel



it will save the nation a whopping burden of Rs 24,120 p.a. which is spent on one or the other form of fuel today. This is the unlimited potential of dung in its utility as fuel.

#### **EFFECTS OF ANIMAL SLAUGHTER ON FORESTS VIS-A-VIS FUEL SHORTAGE.**

After independence, the availability of dung cakes reduced drastically. This forced people to use firewood as fuel. The ratio of firewood to food grain price doubled between 1975-85 which made cutting wood for sale economically attractive. Neglect of people's need for cheap and local fuel has made cutting wood for firewood a lucrative trade.

A World Bank report quoting figures from the Food and Agriculture Organization (FAO) states that the total extraction of wood in India was 264 million cubic meters in 1998, of which 240 million cubic meters was for fuel. Of the total wood consumption in the country, 90% is for fuel. The remaining 10% comprises timber, pulp-wood and poles.

**TABLE 1.11**

*Shows source-wise energy consumption in household sector.*

| <b>No.</b> | <b>Energy</b> | <b>% share of<br/>energy forms<br/>(Rural)</b> | <b>% share of<br/>energy forms<br/>(Urban)</b> |
|------------|---------------|------------------------------------------------|------------------------------------------------|
| 1.         | Electricity   | 0.6                                            | 5.9                                            |
| 2.         | Oil Products  | 16.9                                           | 30.2                                           |
| 3.         | Coal Products | 2.3                                            | 13.7                                           |
| 4.         | Firewood      | 68.5                                           | 45.5                                           |
| 5.         | Animal Dung   | 8.3                                            | 3.2                                            |
| 6.         | Others        | 3.4                                            | 1.5                                            |

*(Ref. A report of Working Group on Energy Policy 1979 (adapted in the Report of Firewood study Committee appointed by Planning Commission Pub. by CMIE June 1982 Page 6)*

The Report of Firewood study committee appointed by the Planning Commission in 1981-82 states that "if the present trend continues, the fuel required to cook the food, rather than the food to cook, may pose the greater challenge".

According to Dr. Kushoo, an eminent Indian environmentalist, at the current rate of depletion of firewood, 250 million people in the year 2000 will not be able to cook their food, let alone meet the energy needs. The annual requirement of fuel wood in India by the year 2000 is estimated to be 200 million tons. The shortfall has been estimated to be about 137 million tons. (Ref: Business Standard, 28 November, 1992)

At the Central Board of Ministry of Forest and Environment meeting presided over by the late Prime Minister Shri Rajiv Gandhi, the shortfall of fuel wood was estimated to be around 100 million tons. In order to put further restriction on forest cutting, the government decided to import about 125 million tons of firewood, which would cost Rs. 4,000 crores. The following table shows time taken and distance traveled by villagers for firewood in different regions:

TABLE 1.12

| Region                     | Year | Time Taken        | Distance Travelled | Source                       |
|----------------------------|------|-------------------|--------------------|------------------------------|
| 1. Chamoli (hills)         | 1982 | 5 hr/day          | over 5 km          | Swaminathan (1982)           |
| (a) Dwing                  |      | average           |                    |                              |
| (b) Pakhi                  |      | 4 hr/day          |                    |                              |
| 2. Gujarat (Plains)        | 1980 |                   |                    | Nagbrahman & Sambrani (1983) |
| (a) Forested               |      | Once every 4 days | n.a.               |                              |
| (b) Depleted               |      | Once every 2 days | 4.5. Km            |                              |
| (c) Severely depleted      |      | 4.5 hr/day        | n.a.               |                              |
| 3. Madhya Pradesh (Plains) | 1980 | 12 times/week     | 5 km               | Chanand bosbourah (1980)     |
| 4. Kumaon (hills)          | 1982 | 3 days/week       | 5.7 km             | Fogler and Dewan (1983)      |
| 5. Karnataka (Plains)      | n.a. | 1 hr/day          | 5.4 km             | Battiwala (1983)             |
| 6. Garhwal (hills)         | n.a. | 5hr/day           | 10 km              | Aggarwal (1983)              |

*Ref: Business Standard dated 2-4-1989)*

Cooking and heating requirement of a villager having a family of 5 members, has been calculated to be around 1.25 million Kcal/year. About 20% of this requirement could be met from vegetative waste. Fuel wood would be needed to meet the remaining 80% . As such, 1125 kg of fuel wood would be required by

a family annually. A tree of 5 years of age will yield between 100 to 125 kg of fuel wood approximately i.e. 10 trees of around 5 years of age will have to be cut to meet the fuel requirements of one family.

( Ref. Report of the Firewood Study Committee appointed by Planning Commission, June 1982- pp. 27)

To make up the gap between demand and supply of firewood, 34 million hectares of land area is required to be planted with fuel wood crops during the next decade, requiring an outlay of Rs. 34,000 crores. According to "Indian Forester, July, 1978" firewood has a heating value of 4708 Kcal/kg and dry dung cake has a heating value of 2092 Kcal/kg. As explained earlier, a tree of 5 years of age will yield 100 to 125 kg of firewood.

Dung available from a large animal (cow/bullock/buffalo) will be 5.0 tonnes p.a. Therefore, dry dung available will be  $5.4 \text{ tonnes} \times .3 = 1620 \text{ kg/annum}$ , which is equivalent to 712.8 kg of wood. Therefore one large animal, if kept alive, saves 6 trees every year.

(Report of Firewood study Committee, June 1982 Page 13 and Letter from Punjabrao Krishi Vidyapeeth, Akola, dated 16-4-93)

The destruction of forests for firewood will not stop as long as natural sources of energy from non-wood sources is not made available to villages at their doorsteps. In this situation, it is necessary to increase the supply of cattle (i.e. cow and buffalo) dung cakes to be used as fuel. Dung cake obtained from one cattle is sufficient for a family for a year. Dung cakes are generated within 24 hours only.

There are several economic, social and environmental advantages from using dung cakes, because of which it deserves to be considered an ideal energy source. Dung cakes as

renewable and safe energy source deserves due recognition. In absence of LPG or kerosene, villagers cut trees for their daily firewood requirement. Since dung of one large animal per annum is equivalent to fuel of 6 trees, crores of trees can be saved by stopping slaughter of animals.

India's poverty is closely linked with its increasing deforestation and land degradation. As much as half of the 329 million hectares is considered degraded in one form or another. Satellite imagery in the seventies and eighties, revealed that forests were losing tree cover at the staggering rate of 1.3 million hectares every year. Of 75 million hectares of forest under forest management, 40 million hectares are now without tree cover. The existing plant cover is only about 12% as compared to the ideal of 33%. The area under forest in India is half of what it was 50 years ago.

The widening gap between demand and supply of fuel wood is the main cause of fast depletion of forest cover, which in turn has proved to be ecologically disastrous, as denudation leads to soil erosion, floods, shortage of water, loss of food grain production, and destruction of rural economy.

(Ref. The Hindu Survey of Indian Environment, 1992 pp 31-37).

### **OH! EVEN ASH, ALSO IS NOT AVAILABLE**

How would you evaluate the value of ash of dung cakes? This ash can save us from the slavery of World Bank! It may not be possible to assign any price in monetary terms to the ash which is left over after cooking on the dung cakes. However, it is very precious. This ash is very, very useful in preservation of food grains. In olden days, the kings used to preserve jowar for their subjects for use during drought year. For preserving jowar to last for years, ash of equal weight was mixed with jowar, and it then could be stored in this way for

12 years without any damage. Even in normal; course people could store food grains for 2 to 3 years in their storage tanks made of clay in each household, by mixing cow dung ash in food grains. Today, due to non-availability of ash, people have forgotten its use. Now we borrow millions of dollars from World Bank for construction of air-conditioned warehouses for storing food grains. Now we resort to spraying of poisonous pesticides on food grains for their preservation, which adversely affects health of people. The World Bank and the multinational pharmaceutical companies are taking advantage of scarcity of dung and dung cakes. An old bullock may not be able to work in the farm or to pull weight, but it is capable of giving dung till its death, and this dung can keep us free from inflation, free from disease and also preserve the sovereignty and integrity of the nation.

#### **ANOTHER IMPORTANT USE OF ASH**

Cleaning of utensils is one of the routine and essential household chores. For centuries, the cleaning of utensils was done with the help of ash of dung cakes. Now, instead of dung cake, washing powder or other detergent has to be used. The expenses on this head comes to about Rs 75 to Rs 100 per annum per family. What was inexpensive or totally free, now costs crores of rupees for the society as a whole, and the families in the middle class are the worst affected. The middle class families have to curtail their other expenses to meet this expense and the curtailment is either in their food expenses, education or medical expenses.

In 1960, an issue was raised in the Supreme Court, that when the nation is spending just Rs 5 per head on education, how was it worthwhile to spend Rs 19 to maintain an old animal. (The argument was presumably to justify animal slaughter) The issue today, is that if we are unable to spend Rs 25 per head on education, is it worthwhile to spend Rs 75 to Rs 100 on an activity like cleaning of utensils? Is it not

worthwhile to save this 100 rupees, and spend them on education, by reverting to dung ash as means to clean utensils.

#### **CLOSURE OF SCHOOLS IMPARTING EXPERIENCE-BASED KNOWLEDGE**

In villages during winter, people used to make bonfire of dung cakes at night and sit around it talking. The youth helped elderly persons who were suffering from arthritis related problems, by providing them fomentation from fire, and the elderly people used to talk about their own experiences in life, the family traditions, the social customs, the history of the village and thus pass on the rich experience and knowledge to succeeding generations. The local poets used to sing our ancient epics like Ramayana and Mahābhārata and thus kept alive the flow of culture in our society.

In the absence of dung cakes, these village square assemblies had to discontinue, and thus the young generation was deprived of the flow of knowledge and real history. With the closure of such village square centers, the younger generation diverted itself and drifted to gambling dens and hooch shops.

One single animal, be it a cow, bullock or sheep, is much more valuable to the society compared to even a hospital or a college. This is so because the cattle dung creates conditions as described earlier which inculcate into the people the qualities of nursing, organization, social service, passing on knowledge of real history, maintenance and development of religions, social and family feelings and preventing youths from drifting away to gambling dens and hooch.

#### **DESTRUCTION OF FORESTS, WILDLIFE AND VEGETATION.**

With disruption of dung availability, our rich forests also got destroyed. Thousands of full grown giant trees which were destroyed, would value crores and crores of rupees at today's prices.

If the dung and dung cakes can preserve and protect these invaluable assets worth crores and crores of rupees, the dung itself can be considered to be worth crores and the value of the animals who provide such dung is naturally much more! It might serve the interest of a few butchers if animals are allowed to be slaughtered, but in preventing such slaughter, the nation would save assets worth crores of rupees and the religion and culture of the entire nation. With the depletion of forests, scarcity of water set in. With scarcity of water, many vegetarian animals such as deer and rabbits died due to thirst. With their death, animals like tigers, panthers, etc. who used to survive on smaller animals, also died due to hunger.

Thus, with the gradual depletion of the wildlife, the manure which was available in the forests in the form of their dung and urine, also stopped becoming available. With slaughter of goats and sheep who wander in the forests, the manure in the form of their droppings and urine also became unavailable. Thus, many herbal medicines which used to grow naturally in the forests, also became extinct or became scarce, and lost the effectiveness of their medicinal properties.

### **VILLAGES ALSO FELL PREY TO LIQUOR ADDICTION**

Most of the widely prevalent diseases in villages are due to cold and imbalanced elements in the human body (known as VAYU) as also due to various injuries arising out of accidents. In all such diseases, a major therapeutic procedure was fomentation by the dung cake fire.

The hot water bag fomentation is not available in villages for prevention from cold, cold related diseases and as protection against severe cold climate. The only way for protection from this was the fire of dung cakes and when this was snatched away, people turned to liquor. They started applying liquor on the body for heat and

also started consuming liquor, thus pushing up the demand for liquor, and also increased the number of liquor manufacturers and addicts.

### **SCARCITY OF HOUSES INCREASED**

With non-availability of dung, the scarcity of houses in villages is more than 3 crores. All the cement plants of the country together cannot meet this scarcity. The easiest way out is to increase the availability of cattle dung.

### **VALUE OF DUNG**

What is the value of cattle dung? Does this question still need an answer? The value of dung is much more than even the famous Kohinoor diamond. "How is it viable to maintain an old bullock which consumes grass of Rs 700 in a year and in return gives dung and urine worth only Rs 500 ? How absurd, unscientific and hollow this argument is, is clear from what is described below.

The market price for any commodity can be manipulated (i.e. increased or decreased) by speculation and hoarding, by administrative measures, or by similar calculated action. But this cannot alter its value. Grass can be priced as Rs 1 per kg or Rs 5 per kg also. But its value as the means to help animals to survive, to feed them and to give them strength cannot be altered.

The stalk of food grain plants which becomes useless after removal of food grains from it, is the food for animals. When this useless stalk is returned by animals in the form of their dung, its value is astonishing.

Even an old bullock gives 5 tons of dung and 3,443 pounds of urine in a year, which can help in the manufacture of 20 cart loads of compost manure. For cultivating jowar and bajra on dry land, 5 carts of compost manure is required for each acre. Thus, the compost manure provided by one single old bullock can meet the manure need for 4 acres of land.

On irrigated land with the help of such manure, about 2,800 to 3,600 kg of bajra can be grown on 4 acres of land and where irrigation facility is not available, the yield can be about 1,500 to 1,600 kg. This can feed about 10 to 12 human beings throughout a year. Thus there is a wide difference between concepts of price and value. Whether the food grain is priced at Rs 1 per 10 kg or Rs 10 per 1 kg, it does not affect the intrinsic value of the food grains. Its value lies in the utility of providing nutrition and life to human beings. The right to life is a fundamental right and it can be basically protected only with proper food and feeding and the cheap and nutritious food grains required for feeding can be grown with the help of dung. Thus, the most fundamental thing to the fundamental right of living for the human beings is bovine dung. It is absolutely foolish to evaluate this function of dung in monetary terms.

A servant employed by us has to be paid wages for his labor. He demands wage rise, he also demands bonus, he resorts to strike if bonus is less than his expectation, and also abuses the employer. But our servants in the form of these dumb cattle do not demand any wages from us, do not demand any wage rise or bonus. They survive on whatever we offer them to feed, and in return even favor us with a bonus in the form of most valuable dung. And still we are after the blood, meat, hides and skin of such animals and for that we slaughter them alive. We do not wait till they die their natural death to get their hides and skin.

#### NEED FOR DUNG

For land under cultivation it is necessary to use 5 tons i.e. 10 cart loads of dung manure per acre. If less manure is used, the soil becomes weaker, gradually loses its fertility and becomes barren over a period of time. At this rate, 43,07,50,000 acres of cultivable land in our country will need 215,37,50,000 tons of dung manure. An adult cattle on an average gives 4 tons of dung and 3,343 pounds of urine. A cattle less than 3 years of age would yield half this quantity. (Source: Cow in India Page 374 by Dr. Satishchandra Dasgupta quoting Dr. P.E. Lender who was an agricultural chemist of the Government of Punjab during British Regime)

TABLE 1.13 *Domestic Ruminant Population in the country.*

|                                        |                 |
|----------------------------------------|-----------------|
| Bulls and bullocks over 3 years of age | 74,460          |
| Cows 3 years and above                 | 6,400           |
| Calves less than 3 years               | 47,480          |
| <hr/>                                  |                 |
| <b>TOTAL COW FAMILY</b>                | <b>1,78,340</b> |
| <hr/>                                  |                 |
| Buffaloes and calves                   | 57,430          |
| Sheep                                  | 39,990          |
| Goats                                  | 67,520          |
| <hr/>                                  |                 |
| <b>TOTAL ANIMALS</b>                   | <b>3,43,280</b> |

Thus, the total population of various types of the above animals is 34.33 crores. The advocates of cow slaughter are making propaganda in the country and abroad that the cow population alone is 34 crores, and thus cheat the people and make them believe that slaughter of cows is necessary to keep in check their population. In fact, the number of calves should be at least 2 to 2 1/2 times more than the number of cows. However, in our country the number of calves is much less than the number of cows, because under the guise of killing old bullocks, more calves are slaughtered for their soft and tender skin.

Of the above animal population, only 16.82 crores of animals are adult animals (i.e. above 3 years of age). Animals of less than 3 years of age are 6.76 crores, and the number of sheep and goats is 10.75 crores.

Let us now consider the dung yield of the above animal population.

**TABLE 1.14** *Dung yield of domestic ruminant population*

|                                                |                     |
|------------------------------------------------|---------------------|
| 16,81,70,000 adult animals at 4 tonnes p.a     | 62,26,80,000        |
| 6,76,00,000 calves at 2 tonnes p.a.            | 13,52,00,000        |
| 10,75,10,000 goats and sheep at 1/2 tonne p.a. | 5,37,10,000         |
| <b>TOTAL</b>                                   | <b>86,15,90,000</b> |

*(Source: Indian Agriculture in Brief, 18th edition by Agriculture Department of Central Government)*

As we have seen above, for manure alone we need 215.37 crore tons of dung per annum. As against this, the dung production is only 86.16 crore tons. Thus, for agricultural need alone, the annual scarcity of dung is 129 crore tonnes. Besides this, we need 124.36 crore tonnes of dung to meet the needs for fuel, housing, preservation of food grains, repair of houses and for cleaning utensils etc. Thus, as against our annual requirement of 340 crore tonnes of dung, the availability is only 86 crore tonnes, which is just 40% of the requirement for dung alone. It is regrettable that out of the Six Planning Commissions so far, none has taken note of the colossal scarcity of bullocks for agriculture. If animal slaughter is totally banned by legislation and is implemented with strictness and honesty,

then only will it be possible to meet this gigantic scarcity of dung manure.

#### CONCLUSION

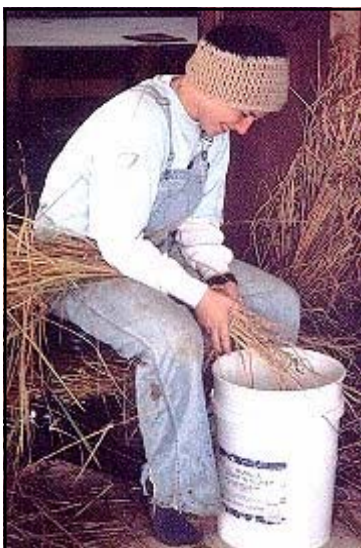
From what has been explained above, the readers will now realize that cutting short the source of dung, has engulfed the entire nation, economically, intellectually, and physically, irrespective of any distinction as to the caste, creed, religion or region. Dung is such a invaluable commodity, that not a single individual of the country can remain immune from the effects of its scarcity, whether such a person is very affluent or poor, whether he is Hindu, Muslim, Parsi or Christian. The scarcity of dung is eating away universally everyone without any distinction. Dung economy was the

## THE "HOW TO" OF COW PROTECTION

most scientific economic system evolved by the great Aryan race. Unless we accept this, our future will become more and more gory. We urgently need our dung culture and its restoration to the predominant place where it belongs. This is not possible unless a total ban on animal slaughter is imposed. But unfortunately, the government of our country is bent on

converting the cultured and civilized population of this great nation, into herds of wild human beings. The religious heads on whom lies the responsibility of preserving the culture and civilization of the population must rise from their deep sleep.

*Rye (top), rice (left) and vegetables grown from the ox plowed Earth.*





## ESTABLISHING COW PROTECTION



## VILLAGE LIFE

### The Village System of Cow Protection

ISCOWP News Volume 9 Issue 1

From an article by Shri Venishankar M. Vasu,  
published by Viniyog Parivar Trust

#### Two Types of Grazing Lands

Grazing lands were of two types: one belonging to the State which was protected, the other for the common people and open for all. The cattle from the village used to graze in these open grazing lands throughout the year. For the young calves or for the old and sick animals who could not go to the

grazing lands, people would cut the grass from such grazing lands and bring it home for feeding such animals. Thus cattle used to get free fodder. In the protected forests the grazing was not allowed for common animals throughout the year. Grass in the common grazing lands used to last till March, April and when it was exhausted by this time, the State used to open up its grazing lands for animals of the village. If the need to open up these reserved grazing lands did not arise due to abundance in common grazing lands, the grass in the reserved State grazing lands was harvested and preserved in

large heaps, which was freely made available in the years of famine or relatively poor years where the grass used to be in short supply. Such grass heaps also were maintained in each and every village. In this well thought out and managed system it was not at all difficult to feed grass to the cattle.

However, cows cannot be fed on grass alone. They need to be fed on cattle feed also such as de-oiled

cakes of oil seeds etc., so that their capacity to yield enough milk, as well as the quality of milk yielded, is maintained at a high level. It is possible for the affluent or middle class people to feed their cows with cattle feed. But what about the poor people? Their need for milk is the same as



*Pasturing is a pleasure for the cow.*

the need of the affluent and middle class people. To take care of this aspect and to ensure that their cows also get enough other feeds, the Hindu religion has laid command to offer "Gogross" whereby each person of the Society before starting his meal sets aside some portion of his food for consumption of the cows. "Gogross" is not meant for one's own cow but it is meant for the wandering cows belonging to the poor people of the village. Thus each and every family in the village was able to get fresh milk and pure ghee in sufficient quantities as per their need. Sometimes a

family would consist of only old people or sick people who were unable to look after a cow. In such cases the neighbors would give milk and ghee freely to such families.

### **The Scheme of Maintaining Stud Bulls**

The responsibility of looking after and grazing stud bulls was that of the herdsman of a village, and the responsibility of providing cattle feed for such stud bulls was that of the Village Committee. In case a cow fell sick or became dry, each family would take care of the cow as if it was a family member. But this could be afforded only by the rich families. For the poor families there was a system of "Panjrapoles" which was managed by the Village Committee and would look after the old and incapacitated cows belonging to the poor section. When cows gave birth to a male calf, the calf was gifted away free to the farmers, and when a female calf was born it was nurtured in the family and given away when fully grown into a cow.

### **Need for Developing the Herdsmen Community**

Each family in the village kept cows. This helped in meeting the need for milk and fuel. If a family was capable of keeping more cows it helped in meeting the need of the ghee also. However, it was not possible for each and every family to keep cows in sufficient numbers. And hence a section of the Society was created in the form of herdsmen (called "Maldhari" in local language) who kept hundreds to thousands of cows. These herdsmen never stayed permanently available. After a few days they would move to another place with their cattle. They did not sell milk but made curd and ghee from the milk and sold it. They reared the male calves and trained them and thereafter sold them to the farmers. From amongst the better male calves, they reared some into stud bulls and gifted them to the Village Committee as and when they needed them.

When a female calf became 3 years old it was mated with a stud bull. The stud bull of each village was changed every 3 years because if the

stud bull remained longer than 3 years there was a chance of its mating with its own progeny, and as a result of consanguinity, the future generation could become weaker.

### **No Commercialism in the Whole System**

In this whole system, the financial viability, or non-viable profit or loss was not considered. This system could yield fresh milk, pure ghee, fuel, and good bullocks for farming as well as transportation for the entire society. Thus the entire population was robust and healthy. This was a very useful and essential system and part of our culture and nationhood.

## **Memories Of My Boyhood in India**

by Vanamāli Pandit dās (Dr. Mody)

ISCOWP News Volume 7 Issue 4

I was born in a small village (about 100 families) in Gujarat, India in 1942. The village was located near the city of Surat. At that time there was no buses, so when we wanted to go to the train station we would take the bullock cart. It took about 3 hours to get to the train station from our village and the round trip took the whole day.

When I went to Baroda, also in Gujarat, to go to high school and college I would have to take the bullock cart from there to a small place outside Surat, then the train, and then another bullock cart to my grandmother's (my home village). My father would call my grandmother that I was coming and there would be an ox cart waiting for me. We were dependent on the oxen for our transportation.

The whole village had one bull. Actually, 2 or 3 villages shared this one bull. So, whenever the villagers needed to impregnate a cow they would pay the family who owned the bull for the bull's services. The doctor who cared for the villagers also castrated the bulls into oxen. He was an Āyurvedic doctor maintained by the village. He also performed all the religious ceremonies and

taught in the one room schoolhouse. He was the Brāhmaṇa. He was not paid in cash but given what he needed.

Grains, wheat, rye, lentils, and vegetables were grown in fields plowed by the oxen. Each family had about 4 oxen, a couple of oxen for the cart, a couple for farming, usually one cow and sometimes two cows, and about 3 water buffaloes. Each family had about 25-50 acres with 8-10 acres for pasture.

The animals were fed from this land, their grain was not bought outside. Śrīla Prabhupāda has said that one should have one acre to provide for one cow. In my village that was the ratio of

cow to land. With this acreage we were self-sufficient for our own foodstuffs as well as the animals under our care. After talking to Balabhadra I have learned that in a colder climate, in terrain where the land is not flat, it takes more land to support one cow.



*Cows make great friends with children.*

I was born into a family of the Vaiśya class. We owned 50 acres and the plowing of the fields was done by the lower class. Instead of salary, they would get supplies, all meals, and shelter. They were part of the family; whatever they needed my grandmother would make sure they were supplied.

As a young boy I knew how to drive the ox cart and train the oxen. Driving the bullock cart was a pleasure and a treat for myself and the other boys in the family. We would compete to be the one to drive. It was a lot of fun for us. We would also ride the oxen. One of the other activities we liked to do with the oxen was to graze them, taking them here and there until they were satisfied.

When we were growing up there was no money exchange within the village, there was exchange of commodities like grains, vegetables. We traded at a small country store where you would trade these commodities for what you needed. We would trade for spices, sugar and when we needed something special we would have to go to the city where we would have to use cash.

One of the nicest memories of my childhood was when my grandmother milked the cows early in the morning. We boys would wait and watch her milk until she was done. Then she would call all the boys to come partake of the fresh milk. Every morning we would have this milk. I also remember

churning the the milk and we would have mākhana (butter). As you know, Kṛṣṇa is known as Mākhanachora (butter thief). Sometimes with the milk we would have mākhana in a leaf cup. We would all sit down in a row and eat mākhana. It was a

real treat! Yogurt and buttermilk was also made from the milk, which we had fairly regularly. The milk we had everyday, yogurt and buttermilk often but not every day, and the mākhana was special, we only partook of it occasionally. There was plenty of milk products for everyone. My grandmother had 4 children and they had 4 children each which made about 16 people to feed every day. There was never any scarcity of milk, grains, and vegetables.

Of my grandmother's 4 children, there were 2 boys and 2 girls. The land was given to the boys. One uncle is still alive. For some years now, since my grandmother died, no family member

has lived there. They lived in the city and labourers worked the land. Since I was the son of my grandmother's daughter I did not inherit any land.

Within our ISKCON community I would like to see a community village consciousness like that which could be found within the village I grew up. I would like to see one family be sufficient in obtaining their own grains, milk, and vegetables and they have extra surplus that they can exchange for things like clothing. And then like minded people will want to live nearby, so there can be exchange and they could help each other. Several one family units, self-sufficient unto themselves exchanging their surplus.

Life is very pleasant like this. When a daughter marries and goes away the whole village feels like it is their daughter going away. When a child misbehaves anyone in the village would correct the child considering the child like their own child. When I was a young boy. I wouldn't even consider misbehaving because everyone would know about it and it would bring embarrassment to my family. Everyone would find out very quickly. Religious holidays like Diwali were also very enjoyable in this atmosphere. The cooking would be shared by many women from different families to form one big feast.

Now we have chaos. In America some historians claim that the invention of the tractor destroyed the family farm. Without the tractor small acreages could be maintained. With machines the acreage possible to be cultivated by one man increases and therefore men, animals and the family unit are displaced as the basis of community. In India the tractor is also encroaching alongside consumerism. Someone works in the factory, gets some rupees and buys their foodstuffs. Then they need to have sense gratification because they are being driven senseless in the factory. If they were outside in the fields in the fresh air, experiencing the

natural creation of Kṛṣṇa, there would be no need for sense gratification. With the security of the community around them the need of sense gratification also decreases because there is more pleasure in everyday life.

I know some persons may say that this is quite idealistic. The western culture we live in is structured so opposite to this ideal of village life. I would say in answer to that; "Have you not seen extraordinary evils in society? Is there a place you can walk freely? What do you want to do about it? Put a police station at every corner? This is not possible nor is it the solution. Are you not already tired of watching the television and the same things over and over again? Don't you want to do something that is satisfying to the soul?"

Personally, I tried everything and I did not find a bit of happiness in what I did. Growing up in the village found a lot of security. Although we were not wealthy we did not feel we were missing anything. There was plenty to eat and enough to wear. After coming to America I made several million dollars in my practice and I found that I lost my happiness. Then I read Śrīla Prabhupāda's books and that's when I realized there was still hope of happiness in this lifetime. Now I use the fruits of my work to help Śrīla Prabhupāda's devotees establish and maintain his vision of the International Society for Kṛṣṇa Consciousness.



## COW/LAND TRUSTS

*A way to provide lifetime protection by Mādhava Gosh email address*

ISCOWP News Volume 8 Issue 1

ISCOWP, Balabhadra dās & Chāyā Dāsi - USA) wrote:

[Text 1267609 from COM]

"You say we must have a goshalla trust, that is our real purpose: kṛṣi-go-rakṣya-vāṇijyaṁ, vaiśya-karma svabhava-jam (Bhagavad-gītā 18.44).

Where there is agriculture there must be cows. That is our mission: Cow protection and agriculture and if there is excess, trade. This is a no-profit scheme. For the agriculture we want to produce our own food and we want to keep cows for our own milk. The whole idea is that we are ISKCON, a community to be independent from outside help. (SPL to Yaśomatīnandana dās, 28th November, 1976)

Mādhava Gosh wrote:

Following are some notes on the cow trust as I see it. Of course, anyone could set up a trust any way they want. This is meant to be a prototype. Individual donors may set up trusts with restricted gifts for very focused and specific purposes, such as building a barn or for the lifetime maintenance of a specific cow.

With the stock market (at present) as high as it is, there are some excellent opportunities for large donors to give and get substantial tax breaks for their retirement and estate planning. Recently a donor gave a local college a \$4 million dollar donation. The donation was an unrestricted gift placed in a Charitable Remainder Trust. A CRT is one where the donor gets the tax benefits of a charitable donation at the time the gift is placed in the trust (like getting the write-off of the appreciated value of stocks or property, but with no capital gains exposure) and it is not subject to estate taxes, but the donor doesn't take possession of the gift until after the demise of the

donor. In the meantime, the donor gets the income generated by the gift to live on. Of course, the specifics will vary from country to country.

In New Vṛndāvana, I am making a specific request for a particular 280 acre parcel of land to be held for the sole purpose of the cows. This is less than 10 % of the land that Bhaktipada left to the NV managers. I don't want to go out to wealthy donors as a poor man with hat in hand. I want to approach from the basis that here is an ongoing, already funded trust with great possibilities and a secure future.

This land is an integral part of the viewshed for pilgrims approaching NV, and is land Śrīla Prabhupāda physically touched with his feet. The land will also be used as a Śrīla Prabhupāda memorial site, with little bhajan kutirs set up in the wooded portions of the pasture for retreats for devotees to spend time with the cows. A gazebo would be built on the site of the 1972 Janmastami celebration where SP spoke the Bhagavat Dharma. Efforts would be made to restore the temple where Śrīla Prabhupāda actually saw Śrī Śrī Rādhā Vrindaban Chandra.

### PURPOSES OF TRUST:

Guarantee lifetime support for specific cows.  
Promote system of lifetime protection with natural death (no slaughtering) for cows.  
Promote small scale agriculture. Distribute information and educational materials appropriate to these ends.

### ACTIVITIES OF TRUST

- 1) Hold land in trust for the specific use of the cows. Buy and sell land or income producing properties.
- 2) Buy land and place development rights in

Conservation Trusts, then resell to aspiring cow protectors.

- 3) Make capital improvements on existing lands
- 4) Assist people aspiring to protect cows, including making capital improvements to their land for the purpose of facilitating cow protection. Said capital improvements to be secured by a lien on the land, with no payments due as long as protected cows are kept there, or until the land is sold.
- 5) Subsidize production of cruelty-free milk.
- 6) Pay devotees with generated revenues to care for unproductive cows.

#### FUNDING FOR THE TRUST

- 1) Existing farm projects place land into trust.
- 2) City temples pay true cost of protected milk
- 3) Hindu guests approached for seed money; eventual interaction with Westerners, especially animal rightists and environmentalists.
- 4) Fund trust initially with donations; over time fund with agricultural production
- 5) Buy income-producing properties to generate funds for trust
- 6) Buy revenue producing financial instruments.
- 7) Assist well-wishers with retirement and estate planning.

#### EXAMPLE OF SUBSIDIZING PROTECTED MILK PRODUCTION

Initially, blood milk is purchased by temples, but \$8 for every gallon purchased goes to a farm trust fund, followed by breeding a cow every time another \$10,000 is in farm trust. The proceeds maintain the calf for life. When the issue of that breeding has lived a full, natural life and passes on, another cow may be bred. In one year, the 8% return on the \$10,000 in farm's Trust would provide \$800, the approximate yearly maintenance cost for one cow. A portion of this \$800 would help pay land costs and labor for the devotee caring for the cow.

If a temple uses 3 gallons of milk @ day, that is \$30 x 365 days = \$10,950 per year. If a temple has \$136,875 in a capital fund, the interest

money at 8% would purchase required milk for that temple in perpetuity @ \$10 per gallon, with \$8 out of the \$10 going into trust fund on a farm aspiring to produce the temple's milk. In 417 days, the \$10,000 figure is reached.

Once the temple is purchasing actual protected milk, the \$2 per gallon could be used for the devotee milking the cow for personal expenses. As the farm's trust fund becomes larger, more cows could be bred, making more milk available for sale to congregational members of the temple, including life members, grhastras (families), and also to vegans and animal rightists in the larger community. This would not have to be sold at the full price of \$10 per gallon, but would command a premium, which the temple could use to fund its trust fund, if it was not already fully funded and the \$10@ gallon was coming out of cash flow.

Initial funding for the city temple's trust fund could come from a capital gifts funding drive among life members and congregational members. Large gifts may be more available than you think for such a project. Even less materially well off people could contribute. If the temple sets a high example of purifying blood milk, people will be inspired to follow the example.

If a family used 2 gallons of milk and donated \$1 per gallon to the temple trust fund, it would take 130 families 10 years to fund the temple fund of \$136,875. Considering it is 20+ years since SP said establish VA, this is not a long time.

This example will tie the city temples to the land, and help bring about the full manifestation of Varnashram Dharma (Vedic society structure). The brāhmaṇs (priests) will be known by their example of not drinking unpurified blood milk, the kṣatriyas (managers) will be known by their competency in administering trust assets, and the vaiśyas (farmers) will get access to necessary capital for developing the economic base of VA. When the economic base is established, lots of work for śūdras (working class).

## COMMUNITY SUPPORTED AGRICULTURE (CSA)

<http://www.biodynamics.com/csa.html>

### Defining CSA

#### What is CSA?

In basic terms, CSA consists of a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production

#### CSA History

Community supported agriculture (CSA) is a new idea in farming, one that has been gaining momentum since its introduction to the United States from Europe in the mid-1980s. The CSA concept originated in the 1960s in Switzerland and Japan, where consumers interested in safe food and farmers seeking stable markets for their crops joined together in economic partnerships. Today, CSA farms in the U.S., known as CSAs, currently number more than 400. Most are located near urban centers in New England, the Mid-Atlantic states, and the Great Lakes region, with growing numbers in other areas, including the West Coast.

#### CSA Is About Ecology

The Earth is a living Being and the actions of every individual have an effect on the whole. The soil is the basis of all human life and the quality of its care and health affect not only the people who eat the food today, but also those who will depend on the soil in the future.

The proper tending of the environment is the concern and responsibility of every individual even though less than 1% of our population is engaged in farming.

It is in the consumer's interest that farmers are supported so that they can grow the highest quality, most nutritious food while preserving the highest environmental quality and soil health.

#### CSA Is About Health

Healthy soil means healthy food. When no herbicides, pesticides or artificial fertilizers are used, ground water pollution and toxic residues on food are avoided. CSA gives the consumer the chance to choose how their food is grown.

Eating locally-grown, freshly-harvested food is the basis of a healthy diet and is recommended by health-care professionals. CSA offers the opportunity for you to reconnect with rhythms of nature by eating produce when it is in season.

People who join CSAs find a meaningful way to reunite with the Earth and a community and discover a kind of spiritual nourishment which they have been missing.

#### How CSA Works

Consumers and farmers work together on behalf of the Earth and each other. While the farmer is tending the Earth on behalf of others, consumers share the costs of supporting the farm and share the risk of variable harvests (and also share the over-abundance of particularly fruitful years).

Membership in the CSA is based on **shares** of the harvest. Members are called **shareholders** and they **subscribe** or **underwrite the harvest for the entire season in advance**. Each project handles this relationship in their own fashion.



Every farm is different in length of season, crops grown, level of social activities and price they set for their shares.

CSA is not about cheap food which is usually neither nourishing nor grown with care of the environment in mind. CSA is about each of us being responsible. We encourage you to compare prices of a share at your local CSA to the supermarket's "cheap food".

There are typically three groups involved in the farm: the farmers, core group and consumers.

**The farmers** do all the actual farming work, and do it the way they see fit. There is no interference from non-farmers about how the work is done. The responsibility of farmers is to make in annual garden/farm plan, grow and harvest the crops

**The core group** is a group of 5-12 people which includes farmers and consumers. The core group makes sure that the food is being distributed and in some cases is responsible for collecting payments, organizing festivals, preparing the budget, paying the farmers, dealing with legal issues and finding more consumers as required.

**The consumers group** includes everyone (including farmers). Their responsibility is to financially support the farm and see that all the food is consumed.

### **CSA Is About Community**

CSAs are frequently formed by farmers, but a number have been formed by consumers. CSAs offer opportunities for people to meet in a different way and address important community issues. Some CSAs make sure that their CSA does not exclude low-income families through their pricing policies. Several CSAs are organized as part of regional food banks. One

CSA offers employment for homeless individuals. Another CSA formed by a church group, links suburban and inner-city residents.

Many CSAs take on the task of helping re-educate us all in how to shift our diets to include more fresh produce when it is in season and how to store or preserve for winter months. Some CSAs take on composting shareholder's food scraps.

### **CSA Is About Families And Fun**

CSA members are interested in MORE than vegetables -- they like to know they are working with a professional grower who shares their environmental and social concerns -- and they are interested in their fellow share-holders.

Families with children are welcome at many CSA gardens. A number of CSAs host local school groups for nature study or art classes in the garden.

CSAs are about strengthening a sense of community. Most CSAs have a newsletter to let people know what's going on in the garden, share recipes, announce things of common interest or concern and social events.

Each CSA is unique and tailored to the needs of its community. Generally farmers make a detailed plan for the next season during the winter. The plan includes the type and varieties of crops to be grown, projected yield and length of the season each crop will be available. Farmers plan the crops according to the tastes of the local community. Informal meetings with consumers and questionnaires can be of help. Herbs, flowers and soft fruit are often included.

Climate and weather change from year to year. And some farms have soil which is suitable for growing certain crops and not others. Over the

long term, these things tend to balance out. CSAs also work co-operatively with one another to supply the needs of their communities with certain crops, meat, eggs or special fruits.

### **Cost**

The Garden Farm Plan enables the farmers to draft up a detailed expense budget for the coming year. The length of season, crops grown, labor costs, etc. affect overall costs and share prices.

The Garden/Farm Plan may be drawn up with a specific number of consumers in mind. Many CSAs simply take the budget and divide it evenly among the number of consumers to arrive at the average price of a **share**. A "full-share" may mean twice a week pick-up. A "half-share" may mean once a week pick-up. Many CSAs offer half-shares for smaller households or individuals, so, 100 individual shares may actually mean 150+ households.

At some CSA's a special, annual **Pledge Meeting** is held at which the budget is presented to the community and everyone pledges what they can afford for the year. The process continues until the total pledges equals the budget.

### **CSA Is About Learning**

CSAs also act as training centers for young people who wish to learn the skills of farming and management of CSA operations. These "hands-on" trainings are called "apprenticeships". In addition, CSA members often volunteer their time to work in the garden so that they may informally learn about horticulture or other gardening skills.

### **CSA Is About Seasons**

Seasonal celebrations are natural when you are living closer to nature. We've heard of social gatherings like: Planting Parties, St. John's

Festivals, Raspberry Festivals, Michaelmas, Potato Digging Potlucks, and Fall Harvest Festivals.

Changing your diet to eat with the seasons is something that happens naturally when a larger portion of your food begins to come from a garden. Shareholders help one another by sharing recipes and menus. Some CSAs publish recipe books like Louise's Leaves (now published by the Biodynamic Association.)

Some CSAs try to encourage shareholders to pick enough food to preserve for the winter months. So, household arts of drying, canning, or freezing foods are to be rediscovered.

### **Distribution/Delivery**

In many CSAs, crops are harvested twice a week. If a CSA has full and half shares, it means that full-shareholders would pick-up twice a week and half-shareholders would pick up once a week.

If your CSA has **distribution** at the farm, you will be required to go there to get your food. If your CSA has a **delivery** program, you may be required to drive to a pick-up location.

Each CSA tries to harvest only enough fresh produce for the number of people picking up that day so that little, if any, food is wasted. Many Projects have developed a **surplus table or box**. Shareholders can leave what they don't need (or like) or take "extras" which others leave behind. Some farms offer U-Pick for certain labor-intensive crops like peas, beans, strawberries, tomatoes, flowers, herbs, etc.

### **Capital/Land Tenure**

More than 1 million acres of farmland is lost each year to urban development. The average age of the few remaining farmers in this country is 65. Over the next decade, 80% of the

nation's farmland will turn over with much of it going to elderly females or farmers' children who won't live on the land.

The questions of capital and future land ownership are important ones, especially for small farms which lie in urban/suburban areas. The cost of land and equipment is prohibitive for farmers just starting out.

The question of how to fund the future is being tackled by CSA growers and consumers through unique community funding and financing arrangements. The vision is to keep access to land and equipment possible so that community groups can be assured of a supply of healthy food and growers can survive economically.

#### **About the Biodynamic Association**

The Biodynamic Association has been supportive of Community Supported Agriculture since the first CSA projects were begun in the 1980's. The Association publishes books about CSA, under writes training for CSA growers, maintains a database of more than 550 CSA and Biodynamic farms and gardens in North America, and supports the community funding of CSA.

The Biodynamic Association acts as a clearinghouse for individuals seeking information about training, apprenticeship or employment at CSA gardens throughout North America. The Association's bimonthly journal contains "help wanted" ads from CSAs and Biodynamic gardens. Placing ads is free. Current issues are \$6.00 each.

Consumers can call 1-800-516-7797 and request a free listing of CSA and Biodynamic farms or gardens in their state. Or see the state-by-state listing of CSA's in the U.S. and Canada.



## **CSA Resource List**

### **PUBLICATIONS**

**Basic Formula to Create Community Supported Agriculture**, Robyn Van En. 1992. An 80-page handbook/start-up manual including sample budgets, job descriptions, community outreach tactics, bibliography, list of CSA projects throughout North America and more. \$10 each. Available from Van En Center For Community Supported Agriculture. See Orgs.

#### **Community Supported Agriculture: An Annotated Bibliography and Resource Guide**

PUBLICATION DATE: September 1993

CONTACT: Jane Gates Alternative Farming Systems Information Center National

Agricultural Library United States Department of Agriculture Room 304, 10301 Baltimore Ave. Beltsville, MD 20705-2351

Telephone: (301) 504-6559 FAX: (301) 504-6409  
E-mail: [afsic@nal.usda.gov](mailto:afsic@nal.usda.gov) Internet: <http://www.nal.usda.gov/afsic/>

#### **Community Supported Agriculture, Making the Connection**, UC Cooperative Extension.

Guidebook covers CSA design, recruiting members, creating production and harvest plans, setting share prices and legal issues; incorporates ideas and strategies of successful CSA farms. \$25 + \$5 S/H. Available from UC Cooperative Extension, attn: CSA Handbook, 11477 E. Ave., Auburn, CA 95603.

**Rebirth of the Small Family Farm: A Handbook for Starting a Successful Organic Farm Based on the Community Supported Agriculture Concept**, Bob and Bonnie Gregson. 1996. Tells one family's story of beginning and operating a small, organic vegetable farm run on CSA model; managing small scale farms; start up requirements, crop selection, marketing strategies, and related topics. Includes resource list. \$9.95. Available

from IMG Associates, PO Box 2542, Vashon Island, WA 98070. (206) 463-9065

**Sharing the Harvest: Community Supported Agriculture in America**, by Elizabeth Henderson with the late Robyn Van En. March 1998. Currently back ordered with Fedco Seed Catalog, P.O. Box 520, Waterville, ME 04903-0520. Other organizations should carry it soon. This book is a follow-up to the first how to manual by Robyn Van En and much expanded. Many examples of how different CSA farms succeed plus great historical background and context.

**To Till It and Keep It: New Models for Congregational Involvement with the Land**, Dan Guenther. 1995. \$5. Available from the Land Stewardship Project, 2200 Fourth St., White Bear Lake, MN 55110. (612) 653-0618.

#### PERIODICALS

**Growing for Market: News and Ideas for Market Gardeners**, Features regular stories on CSA issues. Annual subscription \$27. Available from Fairplain Publications, PO Box 3747, Lawrence, KS 66046. (913) 841-2259.

#### INTERNET DISCUSSION GROUP

Internet discussion group on all aspects of CSA for members and farmers. For free subscription, send e-mail message to [listproc@prairienet.org](mailto:listproc@prairienet.org) stating "subscribe csa-L (your e-mail address)." Do not use the quotes or parentheses. Once a subscriber, to send a message to the entire list, address it to: [csa-L@prairienet.org](mailto:csa-L@prairienet.org).

#### ORGANIZATIONS

**BioDynamic Association**, PO Box 550 Kimberton, PA 19442. (800)516-7797, internet <http://www.his.com/-claymont/bd/assoc.html> A major promoter of CSA in North America, publishing a bimonthly newsletter, sponsoring CSA conferences, providing catalog of related

resources and maintaining a large CSA database. **CSA Works**, 115 Bay Road, Hadley, MA 01035. (413)586-5133. Provides assistance to the farmers of tomorrow in locating the tools and techniques needed to run efficient CSA enterprises. Coordinated by Michael Docter, Linda Hildebrand and Dan Kaplan.

**E.F. Schumacher Society**, (413) 528-1737, A non-profit membership organization dedicated to promoting and furthering the ideas of the author of "Small is Beautiful," maintains a library of books and periodicals, topics including decentralist thought, alternative economics, agriculture, land trusts and CSA.

**Equity Trust Inc.**, 539 Beach Pond Road, Voluntown, CT 06384. (860) 376-6174. A community development organization that has created a revolving-loan fund for CSA farms to acquire and develop agricultural land with appropriate conservation easements and/or other tenure arrangements that serve both farmers and communities; provides technical assistance and advice to CSA farms on land tenure issues.

**Land Trust Alliance**, 1017 Duke Street, Alexandria, VA 22314. (703) 683-7778. A national network and service center that, through its publications, conferences and other services keeps land trusts abreast of legislation affecting their work; provides access to needed expertise and insurance; constantly seeks to improve the effectiveness and capacity of local and regional land trusts.

**Robyn Van En Center for Community Supported Agriculture** c/o Wilson College, Center for Sustainable Living, 1015 Philadelphia Ave., Chambersburg, PA 17201 (717) 264-4141 x3247. Provides information, handbook, video, slide show and information on CSA development and promotion, research compilations, etc. email: [smoore@wilson.edu](mailto:smoore@wilson.edu)

## Establishing a Viable Cow Protection Program Through CSA

ISCOWP NEWS Volume 12 Issue 2

Dear Readers,

The following is a reprint of a discussion on the Cow conference concerning the forming of a viable plan for the beginning of a cow protection program in Alachua, Florida, USA. This discussion presents many detailed considerations for establishing such a program. Since the discussion is quite lengthy, it will be continued in future issues. The knowledge presented is quite valuable for anyone considering establishing such a program. The discussion is geared for establishing a cow program in a warm climate but much of the details are universal.

Yrs,  
Chāyadevī

From: Pañcaratna ACBSP  
<Pancaratra.ACBSP@pamho.net>  
To: <Cow@pamho.net>  
Cc: markjon chatburn  
<protection\_farms@yahoo.com>  
Subject: Request for help  
Date: Thursday, June 27, 2002 3:00 PM

Daṇḍavad. Prabhupāda kijaya!

I just concluded a long meeting with Bālajī prabhu, the devotee here in Alachua with whom I am working to establish a CSA program including cow protection and milk supply. We have worked up a basic model for milk production that we need help with. Here are our assumptions:

### Preconditions:

- 1) The business model is based on freehold land so there is no direct land cost
- 2) All initial capital expenses like barn, initial

acquisition of animals, etc. are taken as already existing (We plan on obtaining grants, donations, etc. for these costs)

### Cow Husbandry operations:

This is based on an optimum herd size of 100 with milking cows freshened only every four years and retired after 2-3 lactations. One out of three heifers might never be bred. We have projected the following breakup of the herd and the costs of maintaining the herd (feed, etc.)

Milking Cow 10 @ \$675.00 year = \$6,750

Dry Cow 20 @ \$325.00 year = \$6,500

Retired Cow 10 @ \$325.00 year = \$3,250

Heifer 10 @ \$250.00 year = \$2,500

Oxen 10 @ \$400.00 year = \$4,000

Retired Oxen 30 @ \$325.00 year = \$9,750

Bull Calf 10 @ \$250.00 year = \$2,500

Total maintenance cost

Cost of milking (10 cows)

Labor 4 hours/day (365 days/year) @ \$7 per hour  
\$10,220

Total direct cost \$45,470

### Estimated milk production.

We project a 2 year lactation with an average over this period of 27 lbs per day. This would mean:

average 27 lbs per day/ 365 days/year @8 lbs/gallon = 1,232 gallons per cow

Total for 10 cows = 12,319 gallons per year. This means that the direct cost is about \$3.69 per gallon. (this is one of the main areas we need help in verifying our assumptions - see bottom)

Our market research indicates we can charge \$5.00 per gallon reasonably and sell "milk shares"

## ESTABLISHING COW PROTECTION

in our CSA for \$650 per year eventually providing about 95 persons with approx 2.5 gallons of milk (or equivalent in yogurt, etc.) per week. This would bring a gross margin of about \$16,000 for the farmer to help cover his own living expenses and all other indirect costs, including his assistants.

This would be in addition to the main business of the farm which is growing vegetables, fruits and flowers for the CSA members. The oxen would be used in this program which we estimate will save about up to \$5,000 that would otherwise be spent on equipment maintenance and depreciation, irrigation electricity, insurance, fuel, etc.

For the CSA we project utilizing about 6 acres for the 95 member households. Each household would pay about \$480 per year for a total of \$45,000 income.

The direct costs of the agriculture is estimated at just around \$400 per acre for external inputs. This comes to \$2400 per year leaving a gross margin of \$42,500 for the farmer and his assistants as well as additional income for the social security of the cows and oxen.

Initially we will not have such a large herd or even a small but proportionate herd, but we will still set aside the money we would have spent if we had the actual proportionate number of animals. For example, we are planning to start with 2 milking cows and two bull calves (hopefully from the same cows). However, we will set aside the cost of maintaining an additional 6 animals into a trust fund for future retired animals. Thus we expect that the initial milk production will at best just break even.

On the other hand, we will start with the full agricultural program if we get enough subscribers. This will be done alongside the existing Govinda's Garden farm which has been selling organic vegetables grown on 30+ acres for

several years now. To facilitate this program we are forming an independent non-profit that will support the development of this model on privately owned and operated farms. I will be managing the non-profit and seeking grants for the program.

The non-profit may also develop into a sort of certifying agency. We are also considering operating a "social security" fund for both farmers and animals through this non-profit. This is the basic outline. We need advice on several issues which I will post in a separate text.

From: Pañcaratna ACBSP  
<Pancaratra.ACBS@pamho.net>  
To: <Cow@pamho.net>; markjon chatburn  
<protection\_farms@yahoo.com>  
Subject: Specific help for CSA development  
Date: Thursday, June 27, 2002 3:00 PM

Daṇḍavad. Prabhupāda kijaya!

In follow-up to my previous text "Request for help" here are our specific needs:

- 1) One of the biggest variables in our model is the average lactation period and milk production per lactation. Commercial dairies do not allow long lactations in their economic model that is based on culling. Any info you could give us as guidelines?
- 2) Our cost for maintaining various animals is based on data from the ISKCON herd here. If anyone has any other data we would like to see that. I attach a spreadsheet from them.
- 3) We need to know more about labor costs for milking.
- 4) We need recommendations on the breed which will be most suited for both milk and work.
- 5) We plan to build a oxen powered water pump to pump water into a tank to use for irrigation. Any suggestions?

6) Any figures on acres that could be plowed, harrowed, etc. for an average team?

With a little help from everyone we should be able to finalize our business plan and get things in motion for a September launch (at least for the agriculture side).

From: Noma T. Petroff <npetroff@bowdoin.edu>  
To: billy bob buckwheat <d\_4h@hotmail.com>; <Cow@pamho.net>  
Subject: Florida CSA dairy farm - worker satisfaction  
Date: Friday, June 28, 2002 7:49 AM

Derek is addressing a critical point here. You need to carefully consider what life will be like for the people who work with the animals.

The big problem that I see in ISKCON is that cow workers were put in a position of śūdras, but generally that did not suit their natures.

So you should do a general varṇāśrama analysis of the system you are setting up.

In general, those who protect cows should be vaiśyas. They must have enough independence to develop and create security for themselves that they will want to stay for the long term. The smaller the ratio of vaiśyas to śūdra assistants, the lower level of quality treatment for the cows.

Unfortunately, ISKCON generally sets up its cow protection programs so that most of the people working on them are in the position of śūdras.

Two possible things occur:

1. If the person is really a vaiśya type, he will stay for a while, be really fired up and make a lot of innovative changes -- then as he gradually sees more and more that he does not have the independence to develop the project according to his own vision -- he becomes frustrated and leaves -- especially when he sees there is no future in it for him to maintain a family.

2. If a person is mostly a śūdra type, he'll be willing to work for some time -- but again, if he sees there is no good supervision, no good training and no provision for his long-term welfare and security -- then he also leaves.

Working with the animals generally takes a lot of time. Often the person cannot regularly attend the morning program at the temple. Soon, he is regarded as "fallen." In any case, he generally separates himself socially from the main temple community.

With regard to this last factor, I think the Ramaṇa-reti community might be in a better position than many ISKCON communities in the past. Devotees are more mature and not so quick to criticize someone for the external level of their spiritual activities. However, it is still very important to make social arrangements to help insure that cow protection workers are properly integrated, welcomed and socially valued in the community. Perhaps they could give Bhagavad-gītā (or varṇāśrama) classes once a week. Help them out so they can take major roles in set-up for festivals and other bond-forming occasions.

All this is to say that whether a cow program succeeds or fails depends to a very great degree on the happiness of the workers and whether they can feel satisfied and can see a future for themselves which allows for them to develop over time.

Commercial dairy farms do not have to have quite such concern over the social welfare of their workers. If a worker becomes frustrated and quits, there is an unlimited stream of immigrant Mexican laborers that can replace him.

For a devotee farm, the situation is different. Generally there is 1) insufficient training, 2) insufficient social integration. Generally when a cow worker quits, it's a crisis.

## ESTABLISHING COW PROTECTION

I'm not sure that the land shortage Derek mentions will necessarily be a problem if you have a controlled breeding program and can stick faithfully to your target herd growth.

The weak link in the operation is that when you have a big labor turnover, it is extremely common for a new cow person to come in and say, "I've got the solution to all this -- you just need to breed more cows, increase production and expand your marketing base." This sounds quite reasonable to unsophisticated businessmen in the community -- and they say, "Go ahead!" He then breeds a bunch of cows -- beyond the original herd growth target -- and then leaves when people ask him why he didn't train any of the oxen and why the non-milking cows are being treated so poorly (didn't have time, because he was too busy "developing markets.").

So, don't take the labor issue for granted. If workers aren't sociologically integrated, and if they don't see an economically secure future for themselves -- they will leave.

So, labor issues need to be an important focus of your development program. Also, you should be subscribing to several professional magazines like "Hoard's Dairyman" and "Successful Farmer" so you can keep an eye on methods for dealing with labor issues (just don't get sucked into their whole agribusiness perspective). Actually "Successful Farmer" is a free magazine. It's paid for by advertising -- but it does address useful labor and environmental considerations.

Anyway, hope that helps. Do not underestimate the crucial importance of getting the labor issues right. Cow protection starts with the cowherd.

From: <iscowp@earthlink.net>  
To: Noma T. Petroff <npetroff@bowdoin.edu>; <Cow@pamho.net>  
Subject: Re: Florida CSA dairy farm - worker satisfaction  
Date: Friday, June 28, 2002 12:06 PM

Is the \$7 dollars an hour their take home pay? Are you providing any benefits like health insurance, dental, retirement? If you are, with \$7 an hour take home pay - that is even low for let's say a man to support his family or just a single person to live on in America. And if that is the pay with no benefits- you won't have anybody stay very long.

And then if it is under the table with not even social security or worker's comp benefits, the quality of workers and their commitment decreases drastically. And then the quality of care for the cows becomes low.

I agree with Hare Kṛṣṇa dāsī on the consideration that the people who take care of the cows usually are not treated well and then they go away. I was just talking to Radhanath Swami about the same issue. New Vṛndāvana just lost one young boy who has worked for years with the cows and if he could have been paid a higher salary it is likely he would not be leaving. He had asked for more and there was not more to give him. It seems that everyone who has been close to this issue agrees that the cowherds need to be taken care of if you expect to have good devotional care.

But since you are starting a new program and are not inheriting problems from the past to deal with, this is something you can consider.

Your servant,  
Chāyadevī

From: Pañcaratna ACBSP  
<Pancaratra.AC BSP@pamho.net>  
To: <Cow@pamho.net>  
Cc: markjon chatburn  
<protection\_farms@yahoo.com>  
Subject: Request for help  
Date: Tuesday, July 02, 2002 6:40 AM

On reviewing my text and several comments, I realize that my example of a 100 animal herd size



was inappropriate as it will be many years before the program reaches that size, if ever..

In fact what we are currently planning to start with is two milking cows, meaning a herd size of 20. Of these, most will be "virtual " as we would not actually have the animals in the herd, but would still be putting aside the cost of maintaining these cows, calves and bulls into the trust fund.

If we maintain the number of milking cows at just two then the corresponding breeding schedule would require about 15 years for the herd to physically grow to 20. By that time the CSA would have accumulated about \$50,000 in the trust fund. This is without compound interest. If you add interest then the size of the fund grows to nearly \$67,000.

If the program stopped at this point and there was no more breeding and no more income, then the fund would be more than enough to cover the cost of maintaining the herd for the rest of their lifetimes.

This is the model we are working from. In this model, there is actually little or no profit from the sale of milk. At \$5.00 a gallon the breakup would be:

40% goes to the person milking,

11% to maintain the milking cow

48% to maintain the rest of the herd (or put into the trust fund)

1% for overheads, etc.

We are now studying our overheads, cow maintenance costs, etc. to refine these figures. If, after 3 years the model is working well, then we might accelerate the breeding for a few years to boost the herd size. I am working on this model to see what the financial implications might be.

I will respond to the points raised by Derek, Hare Kṛṣṇa dāsī, and Chāyā prabhuś in separate posts.

From: Śyāmasundara (dās) (Bhaktivedanta Manor - UK) <Syamasundara@pamho.net>  
To: Cow (Protection and related issues) <Cow@pamho.net>  
Subject: Request for help  
Date: Tuesday, July 02, 2002 11:00 AM

Dear Pañcaratna Prabhu,  
Sorry about the delay in replying to your letter. I have a doubt about your following analysis.  
>Cost of milking (10 cows)<  
>Labor 4 hours/day (365 days/year) @ \$7 per hour \$10,220.

Does this labor time include the following:

1. Herding the cows from the pasture for milking
2. Cleaning the milking area
3. Herding any suckling calves from there holding/pasturing fields
4. Feeding hay during the non pasture months
5. Feeding the rest of the herd
6. Putting down fresh bedding for the cows and oxen during winter
7. Moving the milk to and from the cow barns to the kitchens or sales areas.
8. When the main milk person goes on vacation will he/she receive holiday wages? If so then that is in effect a double payment on his those days (his and the relief milker).

## ESTABLISHING COW PROTECTION

9. Apart from milking the cows what does the milk person do at other times to supplement the income?

I have attached the milking analysis of the Bhaktivedanta Manor herd kept over the past 8 years which may assist you in your yield calculations and longevity of lactation. If you have any questions about it please let me know.

In your general costings and thoughts have you included the following:

1. The cost of manure removal and spreading by oxen and/or by contractor.
2. The cost of home grown hay and/or of bought in hay.
3. The cost of home grown straw and/or of bought in straw.
4. The cost of fence repairs and general building repairs.
5. Veterinary costs.
6. Will your proposed wage of \$7 per hour be enough to keep a householder satisfactorily.
7. Will the milk persons have a home provided for them or will they have to make their own arrangements for living accommodation.
8. If they are not strict sādhanā bhaktas will there job be at risk?

Sorry about the labyrinth these questions may create, but I am sure you have already considered them.

From: markjon chatburn  
<protection\_farms@yahoo.com>  
To: ISCOWP@pamho.net  
Subject: Re: Request for help  
Date: Tuesday, July 02, 2002 12:30 PM

If one works on the assumption of 2 calves born per year and a life span of 20 years then stable-

state (mature) herd size would equate to 40 animals.

This does not mean that you would need (40\*20) 800 animal-years of assurance capital, though. As 20 animals would be over 10 they would need a lessening amount of assurance due to their age. 20 animals would be under 10 and they would need more assurance due to their age. The maths would mean that you would need only (20\*20) 400 animal-years of capital assurance to back the mature herd.

That is still a huge amount, and it is doubtful in my mind if to follow this stringently is good for the overall project. A quarter of this would be 100 animal-years, which with a retired animal cost you quoted at \$325 per year would equate to a 25% assurance capital of \$325,000 needed at herd maturity to assure the herd for life if the occasion merited a suspension of the productive model.

From: Mark Middle Mountain  
<gourdmad@ovnet.com>  
To: Cow@pamho.net  
Subject: Re: Request for help  
Date: Tuesday, July 02, 2002 4:59 PM

Was off the conference without realizing it, just got a batch of back mail including this one set by Chāyā I guess. Maybe I missed a bunch.

I have lots of reservations about this proposal and will comment more later but I would say off the top this is one of the best proposals I have ever seen, please don't be discouraged by negative feedback, some of which will also be coming from me. I see in later e-mail you scale back from 100 to 20 cows, that is good, because then you can see if it works, to add more later then would be on the basis of experience. The 100 figure just throws such an emotional blast at devotees who have seen spectacular failures in the past. Your presentation will be received better with the 20 figure.

The way I found out I was off conference was Balabhadra asking about the \$7 an hour figure. I don't know if he discussed it here and Chāyā didn't send it to me so excuse if repetitive.

The thing is that to give a person a gross salary of \$7 an hour will cost the employer easily 8 maybe \$9 an hour depending on state taxes like unemployment and workmen's compensation.

The breed we have thought about at NV is Milking Shorthorn. The semen is available thru AI ( you do NOT want to keep a bull, especially in the beginning), they have a little richer milk, and the oxen have good characteristics.

Land costs = \$0. That is pretty sweet deal, as land is the killer for most new operations. But what is the guarantee it will always be available? Off the top, this seems the weakest point, as if the whole thing is dependent on free land and later the support is withdrawn, then it goes negative numbers very quickly. Nice to see a trust arrangement with the land.

The tie in with the produce CSA is great, then the dependency on milk sales is just a sideline really. The manure then becomes very valuable, assuming the CSA is low impact (minimal chemicals) or organic.

Don't be discouraged, but do be realistic.

From: Śyāmasundara (dās) (Bhaktivedanta Manor - UK) <Syamasundara@pamho.net>  
To: Mark Middle Mountain <gourdmad@ovnet.com>; <Cow@pamho.net>  
Subject: Re: Request for help  
Date: Tuesday, July 02, 2002 11:50 PM

Regarding breeds,

Here at BM we use a dual purpose breed called Meusse-Rhine-Issel (it comes from that area between the 3 European rivers). This breed is not too dissimilar to the dairy shorthorn mentioned by Mādhava Gosh prabhu. We have

bred from a dairy shorthorn and have found her very gentle. The stature of the oxen is good and the yield is reasonably high but not on the scale of the industrial cows.

From: billy bob buckwheat <d\_4h@hotmail.com>  
To: Śyāmasundara (dās) (Bhaktivedanta Manor - UK) <Syamasundara@pamho.net>; Cow (Protection and related issues) <Cow@pamho.net>  
Subject: Re: Request for help  
Date: Thursday, July 04, 2002 12:00 AM

Who will do :

- 1) HEALTH CHECKS- (and know what their looking at)??
  - a). Hoof care
  - b). Open wounds, infections, injections, pull inserts for deworming, mastitis care, various others.....
  - c). Assisting Birthing complications of calves.
  - d). Caring for new borns, clipping umbilical cord and sterilize, birthing watch, colostrum feeding, many others.....
  - e). Dehorning (if desired) Castration, others.....
- 2) PASTURE MANAGEMENT
  - a). moving herds to proper fields at proper times.
  - b). Making sure fields are seeded, weeded, holes filed.
  - c). Fencing-
  - d). Irrigation and watering for herds.
  - e). Poisonous plant protection
  - f). Cutting grass or buying grass that is not just weed. Storing the grass and grains, taking care of the storage facilities...
  - g). A million other things..

### 3) TRAINING COWS AND OXEN

- a). A trillion things...

## ESTABLISHING COW PROTECTION

### 4) BREEDING CONTROL MANAGEMENT

a). taking care of a bull?, facilities? Know how?  
b). picking the sire if doing manual insemination.

5) just realized I'll be here for awhile if I write more..

6) There are various tools and training for all these activities and for each activity.. three dozen choices of how to do it.

7) The way to have all things done nicely is.. just keep one or two or 5 cows personally and forget business racketing, take care of the dear Matta's and Pita's as a part of the household, and they will reward you accordingly, not to mention KR̥ṢṆA..GOPAL..GOVINDA..

This is the way of success and simple survival which is the main task of life and the best model. (no cow engineering), no matter your lifestyle rich, poor, complicated or simple, just keep a cow or two and be happy with your nightly hot cup of milk, yogurt that you can't get rid of, butter if you get around to shaking the jar, yum, CURD.. burfi.....

If she thinks she is your mother and she gets love.. she will supply you her whole life.. as I've witnessed.

Make industrial size, and she is just another number, and you will breed every 1, 2, 3, years to keep up with competition or overhead, ECT..

Good luck... Derek-

P.S. Better keep fire insurance for your industry, and insurance on the cows in case one jumps a broken fence line that the low waged servant didn't fix properly and the cow walks in the nearest highway.. (maybe)....

From: markjon chatburn

<protection\_farms@yahoo.com>

To: <Pancaratna.AC BSP@pamho.net>;

Cc: <iscowp@earthlink.net>

Subject: Multivariate herd data

Date: Tuesday, July 09, 2002 7:51 AM

I finally got round to creating the multivariate herd data that is so necessary for a proper business plan, whatever the format. Play with it at will.

Cows/yr is the determinant factor of how many calves are to be born each year.

Milking yield responds to a 4-year lactation that can be altered. Also, for a 3- or 2-year lactation one can put in zero and alter the other 2 years accordingly. Though this could change herd population dynamics in terms of breeding, though non-milking cows should take up the slack in the available herd of mothers to impregnate.

Milk price is in £8, and it is a/the major factor.

The system is semi-primed, not like the first excel file I sent, which was fully primed. The system does not bifurcate, though it can be seen that an eighth of the herd are non-lactating mothers. These could be formed as a separate herd, in terms of the financial model, thus reducing the first herds. Again this is a pyramid model which requires ever ending expansion into an ever ending market. As long as this can be factored into the model there is a good 20, 40, 60, 80 or more years of market growth. As the supply grows demand will grow in a positive-feedback cycle which is hugely beneficial for the system as a whole.

There needs to be an efficiency correlation in it as well, which I will do later. No business can expect to be 100% efficient to the model, except after many years when all the problems are ironed out.

The two land costs relate to renting and buying. The buying option is obviously the best. Also, if the land bought is bequeathed to charity (i.e. VEDA), thus owning both the cows and the land, which has a reciprocal contract to give permanent free use to the business based on a Standards criteria, then that solves the lifetime-assurance system we were looking at. If the business goes bankrupt then there is land capital

The internal rate of return (IRR) for the business is pathetic if looked at a capitalist "milk-it-for-profit" mentality. Yet it secures land, lifetime-assurance for the animals, milk yield and oxen for crop production. It is ideal for CSA, wherein CSA full members invest in shares which then are backed with bank loans to secure the full-herd mortgage, with profit from non-used land in the first 10 to 20 years then the first



*The bounty of ox plowed Earth. (green beans)*

to back up for life the animals. The business would be not-very profitable, but that is not THE idea.

The cost of animal insurance for medical bills is not included - any data? This should be an internal system with monies being put by for the needs of the herd.

15 years make profit followed by loss for 40 years, then profit onwards. CSA full-members would thus reap back there initial investment plus dividends/profits. It would also require them to buy year-shares for milk and crops. An assortment of relationships could be formed wherein initial investment could be dividends to pay for year-shares.

A separate crop production model would be needed. This may be registered as a different business if deemed fit. The idea is to stop cross-subsidization, for each component part to be self sustaining. Thus when adversity comes the backbone - cows and land - are assured via the charity. The appendage businesses -crops, tourism, temples, cafes, restaurants, ox carts, horse carriages, etc., can all go bankrupt, but the backbone will remain for other appendage businesses to reappear in fairer times.

There has, as yet, been no modeling of ox/cropping, the assumption being that it will not make enough profit to pay off oxen's maintenance. This could and should be erroneous. Thus, if oxen make profit and support themselves then the costs are dramatically reduced.

Neither included are public costs (tax, asset insurance, lobbying etc.) and benefits (cheap land rents, grants, legislation), nor charity costs and benefits. ISKCON has a huge amount of experience with the latter of which it is mostly supporting the current system (Adopt A Cow, etc.). All I am doing is inserting private capital and supplier/consumer relationships into this - yet if the price is right then it could go it alone privately. But then why neglect public and charitable institutions? Utility is the means, to exploit all factors at our disposal to create a viable system that puts us on the land for good. Those who go subsistence all the better, but first they need the land and expertise.

Creating a charity (not-for-profit organization) in the image of what I suggested in VEDA would then add a lot of capital to the system as well as being the bankruptcy protection that is needed as the land would be bequeathed.

It is inherently complex, but I believe I am starting to get the backbone of the system in place. With data, structural modification and addition we

could soon have a very good business model. But to move further on it, I sincerely believe we should raise some money to get a notable expert in the field to go over the structure and the data with a tooth pick. I have been accused of recklessness with this model, but I would not want to go ahead with it until it has been peer reviewed, and not by just devotees, who whilst experienced are not always expert Ag economists, but by karmī-business-heads who have been in the business for years. One who has worked in third world countries with oxen, worked in the first world in both conventional and organic, with CSA's, etc.

This is after all a theoretical model, and reality is much different to theory. Yet the model should be as close as possible to mirroring reality. *(If you would like to view the Multivariate herd data please write mark at his e-mail address)*

From: Mark Middle Mountain  
<gourdmad@ovnet.com>  
To: markjon chatburn  
<protection\_farms@yahoo.com>;  
<Cow@pamho.net>;  
<Pancaratna.AC BSP@pamho.net>  
Subject: Re: Multivariate herd data  
Date: Friday, July 12, 2002 12:51PM

> A separate crop production model would be needed. This may be registered as a different business if deemed fit. The idea is to stop cross-subsidization, for each component part to be self sustaining. Thus when adversity comes the backbone - cows and land - are assured via the charity. The appendage businesses, crops, tourism, temples, cafes, restaurants, ox carts, horse carriages, etc., can all go bankrupt, but the backbone will remain for other appendage businesses to reappear in fairer times.>

Excellent point.

From: Noma T. Petroff <npetroff@bowdoin.edu>  
To: markjon chatburn  
<protection\_farms@yahoo.com>;  
<Cow@pamho.net>  
Cc: Pancaratna.AC BSP@pamho.net>;  
<iscowp@earthlink.net>  
Subject: Re: Multivariate herd data - milk quality  
changes over time  
Date: Thursday, July 11, 2002 7:05 AM

I have not seen your spread sheet -- but I wonder if you are factoring in declining milk production for each cow.

For example, at the beginning of a lactation a Brown Swiss cow might be giving 10 gallons (86 pounds) of milk per day. After a year and a half, milk output might be 2 gallons or (about 17 pounds) per day, and might continue that way for the next couple years.

Also, you probably want to factor in the quality-value of a gallon of milk over that time. Milk during the first year of the lactation can be used for any purpose. Milk after the first year is a different consistency and might be better for curd (possibly cheese, also?). Maybe burfi. Not so good for hot milk.  
Hare Kṛṣṇa dāsi

From: <Pancaratna.AC BSP@pamho.net>  
To: markjon chatburn  
<protection\_farms@yahoo.com>  
Cc: <iscowp@earthlink.net>;  
<Cow@pamho.net>  
Subject: Multivariate herd data  
Date: Wednesday, July 10, 2002 3:10 PM

Dear Mark,

Daṇḍavad. Prabhupāda kijaya! Thank you very much for your information. I will need to study it a bit more before commenting.

I attach for you, and other's on this thread, a file which I prepared as a model of the herd we are planning to start with. The maximum size of this herd is 20, with just breeding every two years for the milkers. We also plan to breed only 2 of 3 cows from the 13th year.

The ratio of male to female is tilted due to starting with 2, 2-year old Heifers, ready to be impregnated and one year old heifer

I have included the "virtual herd" which is the basis for calculating a trust fund for the system. I have cut it off at 15 years to see how the trust fund would work to maintain the herd if breeding was stopped at that point and there was no income.

I haven't included labor or land costs in the \$350 per year, nor is there inflation adjustments. Anyway, it is a start.

*(This file is also quite lengthy and if you would like to view it please contact Pañcaratna at his e-mail address)*

From: markjon chatburn,  
protection\_farms@yahoo.com  
To: <gourdmad@ovnet.com>;  
<iscowp@earthlink.net>;  
<Pancaratna.AC BSP@pamho.net,<npetroff@bowdoin.edu>  
Subject: Multivariate herd data  
Date: Sunday, July 14, 2002 7:09 PM

Dear Pañcaratna and all,  
Thank you for your spreadsheet. I looked over it and found many similarities with my first one that was not a variant model but a predicted model. Having done that I then put in breeding 1 animal a year in the multi-variant model and it came to a similar maths. In your spreadsheet at W66 your trust fund has about \$60,000. Mine, at AG4, has a value of \$100,000 related to the

mortgage (meaning start up costs), which is the trust fund.

The beauty of the spreadsheet I have, and which I send anew with gallons and £s to \$s converted, is that most variables can be changed and refined as more and better data is brought forward. I first did a predicted model, but the maths of it were so correspondent that a variant model is well suited. Sorry if such terms are confusing, all it is saying is that there are mathematical correlations which mean it can be modeled and transformed in various ways.

The point with the trust fund, or land fund, is which is better to have 1) land, whose natural capital produces the product interest that is the business, and that can be liquidated to finance the animals herd depreciation, or 2) a lump sum that has no fixed asset, just financial, whose interest pays land rent or something else.

I'm sure Prabhupāda would say land. At the end of the day it is to be hoped that the trust fund would not need to be used. If there is a temporary blip in the farm's fortune and the charity takes over the lease of the animals then land can be re-mortgaged to allow for temporary herd maintenance and depreciation (if old enough) until the system can be rebooted again under the same or different businesses under a new license that the charity leases out. At all times though the charity must be the owner of the animals and the land, and lease them out on a principles-based system.

I have also included the selling off of non-milking mothers, as in the cell bifurcation model, into a separate functioning and financing farm cell. You may also notice that a price of £1.3/liter = \$9/gallon, and still this does not pull even; but you would not expect it to as many other costs and benefits are not in place. Also the efficient

work load is one milker with 12 milking mothers (3 in the 4-year stages).

The spreadsheet takes some working through to get into its dynamics. If you set the cows/yr at 1 then it mirrors your spreadsheet. I hope it is of some use to yourselves, the animals and nature. *(If you wish to view this spread sheet please contact Mark)*

From: Mark Middle Mountain  
<gourdmad@ovnet.com>  
To: <Cow@pamho.net>  
Subject: Re: Request for help  
Date: Monday, July 15, 2002 3:25 AM

> Preconditions:  
> 1) The business model is based on freehold land so there is no direct land cost.>

You need to have some ironclad leasehold on that land held in trust so the whole program isn't evicted on a whim.

> 2) All initial capital expenses like barn, initial acquisition of animals, etc. are taken as already existing (We plan on obtaining grants, donations, etc. for these costs).>

Yes, this is the subsidization necessary we have spoken of so often. Consider donations of animals from devotee farms. NV is for now actually not a candidate for donating young cows, as after a decade of no breeding, most cows are considered too old to be breed, especially since most are still heifers. What young stock there is primarily half beef, due to unregulated incursions by neighbors bulls :-). (while I at times put forth the argument a calf born of a neighbors bull belonged to the neighbor the more sentimental always rejected that concept)

**DO NOT BUY NEW EQUIPMENT.** The steady contraction of the number of farms in the



US means that there is always an auction somewhere, and if you are patient, you should be able to get everything you need for 25-50% of new cost. Get your wish list immediately, run it by some farmers in your local area, then find out where the farm auctions are listed in your part of the country.

As these capitalization expenses are major part of production, if you do not start breeding until they are in place, you will really limit your operating expenses, not having to pay down loans and interest on those loans. Or you could offer large donors milk as part of a compensation package for the donation, if they live close by. I'm sure you already have that as part of your plan :-)

If you have a 501(c)3 that could accept donations of older equipment, and then they could lease the equipment to the dairy operation in exchange for maintaining old cows, you may be able to place ads in dairy publications and get donations of equipment from conventional farmers who are upgrading to bigger equipment.

The idea is that the normal dairy is not expected to keep those animals, but a 501(c)3 could maintain an older animal as part of it's religious practice, and they could contract with the dairy to maintain those animals. The dairy could donate the older animals to the 501 (c)3, in the remote case there was a profit (on paper) and even take a tax write off, especially if it is linked with a viable CSA that does profit from the fruit and vegetable production. the older cows are now property of the 501(c)3, (which may also exempt them from state personal property taxes, at least it would in WV , (don't know Florida tax structure), and the 501(c)3 could contract with the dairy to care for the cows and provide use of the equipment as in kind payment.

> Cow Husbandry operations:  
This is based on an optimum herd size of 100

with milking cows freshened only every four years and retired after 2-3 lactations. One out of three heifers might never be bred.>

Sounds good.

> We have projected the following breakup of the herd and the costs of maintaining the herd (feed, etc.)

Milking Cow 10 @ \$675.00 year = \$6,750

Dry Cow 20 @ \$325.00 year = \$6,500

Retired Cow 10 @ \$325.00 year = \$3,250

Heifer 10 @ \$250.00 year = \$2,500

Oxen 10 @ \$400.00 year = \$4,000

Retired Oxen 30 @ \$325.00 year = \$9,750

Bull Calf 10 @ \$250.00 year = \$2,500>

With equipment and land costs not counted in, these seem reasonable. Although I would think that a retired cow is cheaper to maintain than a growing calf, because if you want to get full size, then some grain should be fed younger stock, plus occasionally vet may be needed for a younger animal, whereas for the older stock, sometimes you let nature take it's course.

> Cost of milking (10 cows)

Labor 4 hours/day (365 days/year) @ \$7 per hour

\$10,220

Total direct cost \$45,470>

Again, \$7 gross pay to an employee will cost employer \$8-9.

> This means that the direct cost is about \$3.69 per gallon. (this is one of the main areas we need help in verifying our assumptions - see bottom) Our market research indicates we can charge \$5.00 per gallon reasonably and sell "milk shares" in our CSA for \$650 per year eventually providing about 95 persons with approx 2.5 gallons of milk (or equivalent in yogurt, etc.) per week.>

## ESTABLISHING COW PROTECTION

One difference between the \$3.69 and the \$5 figure you don't seem to be accounting for is the processing costs. Chilling the milk for raw milk sales (legal in Florida?) or pasteurizing it takes labor and energy, plus bottling costs which are labor and energy, assuming equipment already in hand.

>This would bring a gross margin of about \$16,000 for the farmer to help cover his own living expenses and all other indirect costs, including his assistants.>

My hope would be a break even for the dairy, with the manure as free fertilizer being the benefit and major part of the profit, farmer getting some of the labor costs for him/herself.

> This would be in addition to the main business of the farm which is growing vegetables, fruits and flowers for the CSA members. The oxen would be used in this program which we estimate will save about up to \$5,000 that would otherwise be spent on equipment maintenance and depreciation, irrigation, electricity, insurance, fuel, etc. >

I think savings from oxen might be optimistic:-) But at least if it was a break even with mechanical draft, it wouldn't be a liability and that is a plus. The profit in using oxen will be more in a marketing perspective, or in giving rides at festivals, and on a spiritual level, Kṛṣṇa will be pleased :-)

For the CSA we project utilizing about 6 acres for the 95 member households. Each household would pay about \$480 per year for a total of \$45,000 income. The direct costs of the agriculture is estimated at just around \$400 per acre for external inputs. This comes to \$2400 per year leaving a gross margin of \$42,500 for the farmer and his assistants as well as additional

income for the social security of the cows and oxen.>

CSA have their own brand of headaches, but are definitely where forward thinking farmers are looking. Alachua is a unique area with a large devotee community that is capital generating, so it is a great opportunity and niche market, worth taking the shot. I assume there is already an existing operation there looking to expand or upgrade, that would be ideal, starting from scratch is way more difficult than most people can conceive.

<Initially we will not have such a large herd or even a small one but proportionate herd, but we will still set aside the money we would have spent if we had the actual proportionate number of animals. For example, we are planning to start with 2 milking cows and two bull calves (hopefully from the same cows). However, we will set aside the cost of maintaining an additional 6 animals into a trust fund for future retired animals. Thus we expect that the initial milk production will at best just break even.>

Good, start small, then when initial obstacles are overcome successfully, gradual expansion.

> On the other hand, we will start with the full agricultural program if we get enough subscribers. This will be done alongside the existing Govinda's Garden farm which has been selling organic vegetables grown on 30+ acres for several years now.>

Go for it, I will pray for you.

> To facilitate this program we are forming an independent non-profit that will support the development of this model on privately owned

and operated farms. I will be managing the non-profit and seeking grants for the program. The non-profit may also develop into a sort of certifying agency. We are also considering operating a "social security" fund for both farmers and animals through this non-profit.>

Gotta love the idealism ;-)\_

> This is the basic outline. We need advice on several issues which I will post in a separate text.>

Sorry so slow to respond, but the demands of my own gardening operation drain most of my energy. Feel free to stop by NV and visit, we could have a frank and long conversation on these matters.

Hare Kṛṣṇa

Mādhava Gosh

(in case you didn't realize who Mark Middle Mountain is, I am not on COM anymore)

EDITOR'S NOTE: This is an on-going dialogue that will be continued to be published in the ISCOWP News. We are trying to also publish the newsletters on the ISCOWP web page. So for further progress reports on this project please refer to either resource.

## The Hare Kṛṣṇa Farm in Mysore

Written and submitted by Labangalatika dāsi  
ISCOWP News Volume 12 Issue 2

The Hare Krishna Farm is 160 acres on the Kaveri River and about 18 kilometers from Mysore, India. The land acquired was barren and no one wanted it, but the temple devotees in Bangalore were inspired by Śrīla Prabhupāda's vision for Varṇāśrama to establish a project where they could grow food naturally and have a

sustainable way of life based on protection of the cow and the bull.

In 1996 they started with one temple devotee, Jai Caitanya dās, 3 helpers and 3 families from the area who are now chanting. At first it was necessary to connect with the local villagers and create good will. For instance, the devotees supported the local school project at Mahadevpura. Jai Caitanya dās, who had previously helped set up the incense business in Bangalore temple, had no background in farming but agreed to give it a try for one week, and that week is still going on 6 years later. It is a great achievement that after 6 years this is the first year they have broken even.

They started a pilot project on 2 acres and the first 2 years were a struggle. They planted trees, a mixed plantation, starting with banana to create shade and make "mulch." They made the mulch from fallen leaves and grass waste. Now there are acres and acres of a lush tropical forest of coconut, guava, papaya, mango, amla, chikoo, cinnamon, all spice, karanj or pangamia, and glyricidia which is both good for fodder and for fertilizer as the leaves are full of nitrogen. Black pepper vines grow on the trees and also vanilla which is the one tremendously successful commercial crop. Even sandalwood trees are growing here and there from seeds dropped by birds. These trees take 40 years to mature.

At first they were attacked by armies of pests of all kinds, from sucking pests to ravenous beetles to soil born diseases. Jai Caitanya dās learned traditional ways of pest control by talking to old farmers and experimenting with natural pesticides made from cow urine and various pest repellent herbs. At first they used to spray 10 times a month, now they only spray twice a month because the birds, which have come to settle, do a lot of biological control. A Singapore Cherry tree was planted to attract the birds. Some trees are covered from the trunk to the ends of their twigs by a tree paste of clay, cow

## ESTABLISHING COW PROTECTION

dung, and fine sand to protect the bark from insects.

After 2 years Jai Caitanya dās was ready to teach by conducting sustainable farming workshops. He had made big heaps of vermi compost for fertilizer from cow dung, grass waste, dry leaves and small twigs. As soon as one heap is ready, the worms shift themselves by crawling to the next adjacent pile. Now he is employing 40 to 60 day laborers, depending on the season, from the local area. They see the benefit of getting extra income, acquiring knowledge, and participating in the devotee festivals.

The Kaveri River charges the wells. Jai Caitanya dās had contour mapping done and made 2 big storage ponds. They had to be lined with a layer of clay to prevent drainage. In the second year the ponds got filled and are now

used for irrigation. He also made V shaped check dams so soil and water are caught and stored there during rains. He has a wind pump of 150 feet to pump water near the cow shed. The cost was 1 lakh rupees, but it was subsidized by the government. He has some solar pumps and wants to introduce ramp technology to lift water for irrigation by micro sprinklers.

Closer to the river are rice paddies with mixed cropping of vegetables. Crops are planted from wetland to dry land on the hills. He has a Memorandum of Understanding with the University of Bangalore's Agriculture Department. They visit him every week and are

researching multi cropping, such as rice with vegetables and pulses. He is also on the managerial committee for Biodynamic Farming and a member of the Association.

He makes all his biodynamic preparations with herbs available from Ooty in the hills. There is a goshalla of about 20 cows and bulls. The herd consists of the Krishna Valley breed that is almost extinct, and the Hllikar, Gir, and Tarparker breeds. He is also keeping the retired cows from Bangalore temple that are of western breeds. The western breeds are very common in Karnatka and kept everywhere with

nose ropes, probably for easier handling of big Holstein cows. The grown bull calves of the temple cows are engaged in farm work. At present they are all tied.

He has planted 30 acres of forest area for their grazing but has not allowed the

cows to graze there yet as the trees need time to grow. He is planning to buy a 25 acre island in the Kāverī River for "pasudhan," cow protection.

He has taught 250 farmers sustainable farming in the outreach program. He teaches them how to make vermi compost from cow dung and herbal pesticides. He supplies the seed to them and buys back the crop afterwards and markets it. The first harvest is guaranteed, starting on a half acre. The farmers see the change in their land and they are happy. The rice crop increases from 1.4 tons per acre to 2.1 tons per acre. (Testing, like weighing the crop, is done as there is a need to address the farmer's psychological so they will



*An example of how the land looked before the project began.*

not resort to using any chemicals. He is getting all the farmers certified organic to the international standard. He is slowly introducing them to Śrīla Prabhupāda. First you change your land and then your lifestyle changes, then you change your spiritual life. “This is Karma Bhūmi, unless it hits you in the stomach no one is going to work. These farmers need this. They are coming to take it,” says Jai Caitanya dās. ”

Through the outreach program, farmers are growing organic crops all over Tamil Nadu, Kerala, and Karantaka. There is even a farmer growing organic

wheat in Madhya Pradesh and a Tibetan settlement near Mysore growing organic cotton. These are some of the crops bought back from the farmers by Jai Caitanya dās and marketed by him.

He must store the harvested crops from the farmers before marketing in direct sales. The storage is done in a go-down that stores 200 tons of food grains and keeps wheat for one year. The grain sacks are placed on teakwood planks so nothing touches the floor. The tops of the sacks are filled with neem leaves, karanj leaves, nirgundi leaves (vitex negundo) and chili seeds before closing. The outside of the sacks is then sprayed with sitaphal oil. The walls are smeared with cow dung, karanj oil, and tumeric every 15 days.

The pesticide oils and their cooking oil are pressed on the oil ghani in the village. Karanj oil

is also useful for burning and can be used as an engine oil and even diesel. Cow Urine is sprayed in the crevices and cinnamon leaves and cinnamon powder or dust are scattered for good pest control.

He has a rice bank of 25 traditional varieties.

He has created a market for the farmers and given it to them. There is great potential in organic farming and especially in exports where they are prepared to pay a premium. He is creating awareness in consumers and customers preaching to them why they should eat organic

food. There are theme shops in Bangalore, Chennai, Mysore and Ooty which now have an interest in organic products. He has had the greatest success with sugar cane, making most delicious powdered jaggery.

It is so impor-

tant for spiritual development to eat proper food. After all what were the Pāṇḍavas eating? We should remove the 3 W’s from our diet: white rice, white flour, and white sugar. All ISKCON temples should have 20 acres to grow their own pure food to offer to the Lord and sustain the devotees.

Jai Caitanya modestly says: “If I can do this on this land, anybody can do it.” He has made a blueprint for 2 to 3 acre farms and 2 cows with a market hub and a spiritual hub and says that ISKCON should lead the way in rural development. Jai Caitanya: (jnk@blr.vsnl.net.in)



*Jai Caitanya dās and the improved farm land.*

## SELF-SUFFICIENT FARMS

ISCOWP News Volume 7 Issue 3

### Beginning a Self-sufficient Community

Please let me introduce myself. My name is Dorian Kunch. I live in San Diego with Draviḍa dās and regularly attend the Rādhā-Giridhārī temple here. I am also a civil engineer and met Padasevanam dās when he visited here a few months ago. Both Harikeśa Swami and Padasevanam dās are very interested in engaging me in service at the Māyāpur, India project. Part of that project will include cow protection, and so I was hoping you could answer a few questions for me.

My main interest is the plan to make Māyāpur a self-sustaining agricultural community. There is a limited amount of land, and I need to factor pastureland into the agricultural portion of the site in order to calculate the maximum number of inhabitants. About 250 acres of “residential” land have been allotted on the site plan supplied to me, and from that will be subdivided land for housing, agricultural fields and pastures. Assuming a self-sustaining community, how many people can 250 acres support? How many cows per acre per person is standard for a devotee community?

Bhakta Dorian Kunch  
San Diego, CA

#### ISCOWP REPLIES:

Thank you for your communication on LINK. You say you have been given a parcel of 250 acres and you need to figure out how many people, cows, oxen, residential, agricultural and pasture this land will translate into. There are so many factors to take into consideration: 1) how much of this land is suitable for agriculture, 2)

how many cows and oxen do you plan to have in 10, 15, 20 years. This is a very important question. Śrīla Prabhupāda spoke of an acre of land and a cow for a householder family. This is alright in a very tropical setting but here in the states, such as New York or Pennsylvania, we figured about 3 acres of land per cow because of the severe winter season where there is 5 or 6 months and nothing grows. In this respect you have to figure into your Māyāpur calculation the monsoon season.

Because we don't kill any of the cows, bulls and oxen your breeding program must be extremely well thought out. I believe Abhirāma Prabhu has done an in-depth study on this subject. Contact him about this. 3) What type of fuel are you going to use for cooking? This is a big problem in India as wood and dried cow dung are in short supply. If you are going to use wood for cooking, where is your wood coming from? Do you have acreage of woodlots and a comprehensive woodlot management program? Also burning dried cow manure reduces your cow manure to a small pile of ashes. By burning the dry cow manure you are robbing your FERTILIZER SUPPLY.

A couple of suggestions in this regard. Instead of drying the cow manure it can be put into a methane digester which will capture the methane gas released from the raw manure during its decomposition. So your first product is gas for cooking and lights. After the gas has been realized from the manure there is a substance left which is called “sludge”. This “sludge” has been analyzed to be even more nutritious as a fertilizer than the raw cow manure. Why? Because it has gone through a decomposition period and has been “worked over” by different bacteria and enzymes and now is ready to go directly into the

soil as a first class fertilizer. It is extremely important for soil to have organic matter added to it for a number of reasons. Digester sludge is first class.

Another suggestion which can be used along with the "Biogas" methane digester is planting trees for your own wood supply. Many years ago there was a devotee in Māyāpur by the name of Kanva who was responsible for all the gardens. He is a "green thumb" and a very progressive thinker. He was researching a type of tree which grows very fast and also its leaves can be used as an animal fodder specifically for cows. Subabul is the name of the tree. To give you an idea of its productivity; lets say one thousand acres were planted in Subabul - 20,000 tons of wood would be produced in a four year period, in addition to 650 tons of fodder per year for animals. You should also get in touch with him to get more information about his research on this matter.

Another person you should get in touch with is a devotee by the name of Vyāpaka. He is from Canada and is very much involved in Permaculture.

To set up a "self-sustaining" community is a tall order and actually each piece of land in each country, state, province is different in many ways. So each "self-sustaining community" has to look at different factors such as length of growing season, type of agricultural practices being used, water supply, how much flat land, hill side and what sunlight (southern or northern exposure) they have. Is there running water, tube wells? What are your septic problems and solutions?

We are responsible for taking care of these cows, oxen and bulls for between 15 and 20 years, even when they are no longer able to work. How much land will you need for retired cows and oxen? Not only should we ask how many cows can this land support but also how many teams of oxen will it take to work this land and supply all the power to

grow all your own food, the cow's and oxen's food, transport, pump water, power mills, stores, transport goods and people.

How many acres of land will you a lot for the production of grain both for human and animal consumption? In construction of your living quarters, what will be the building materials used? Will it come from the 250 acres or "off site?"

I hope these points have been helpful to you. Please feel free to contact me at anytime with anymore questions you may have.

## Housing

ISCOWP News

Summer 1995, Volume 8, Issue 3

Text 143507 (8 lines)

From: Internet: <manib@jolt.mpx.com.au>

Date: 15-jan-9610:00NT

To: Cow (Protection and related issues) [619]

Subject: Straw bale houses

I have just recently seen a highly recommended book on constructing houses with straw bales titled "Construction with Straw Bale" By Leo Newport. It costs \$A41.95 including postage in Australia, overseas is extra. Available from PO Box 1299, Armidale, NSW Australia 2350. One interesting comment he makes is that rice straw has been proven to be preferable to cereal straw. It may be possible for rice growers to find a ready market for rice straw rather than burning it. Just recently in Australia 600,000 tons of rice straw was burnt.

(Text 143507)

Comments: Text 143686 by COM: Smita Kṛṣṇa Swami (Sweden)

Text 143686 (25 lines)

From: >Smita.Krsna.Swami@com.bbt.se<

Date: 15-jan-96 19:28 WET

Reference: Text 143507 by Internet: Maṇi Bandha

To: Cow (Protection and related issues) [620]

## ESTABLISHING COW PROTECTION

Maṇi Bandha <manib@jolt.mpx.com.au>  
Subject: clay and straw houses

Rudrachandu Prabhu who is the man who built a clay/straw house at Almvik gave the following titles for those who want to know about the building techniques used by him. Rudrachandu is from Switzerland and thus his main language is German and the literature he uses is in German. There is one title in English you could try to get hold of. The English version is a little more hippie-like he thought, but it still gives the idea. Here are the titles:

Gernot Minke, Lehmbau Handbuch, ISBN 3-922964-56-7

Franz Vollhard, Leichtlehmbau, ISBN 3-7880-7383-7

Mc Cann.J. Clay and Cob Build, 1983 Aylisbory  
Mac Henry, PG. Adobe and Rammed Earth  
Build. N.York 1984.

Rudrachandu has also attended a course run in Sweden for this kind of clay/straw houses and has had help from enthusiastic clay/straw house builders in Sweden for the present houses built there.

The immediate plan here is to project and build a couple of more of these houses. There will be the possibility for householders to buy or rent them. There is also an idea of a building company of this kind of houses operating from Almvik and thus creating incomes and engagement for devotees.

## STRAW-BALE CONSTRUCTION Volume 8 Issue 3

From: the black range blackrange@zianet.com  
Subject: Re: newsletter- inquiry

Thank you for your inquiry to The Last Straw (TLS) - as the Managing Editor, I am replying, with the concurrence of our small staff, I will

also copy this to the former publishes of TLS, Judy Knox and Marts Myhrman, who have the straw-bale construction company called Out On Bale,(Un)Limited. They are leading educators in straw-bale building and publish the current best how-to book "Build It With Bales."

>At 06:27 PM 11/20/98 -0700, you wrote:  
Dear The Last Straw people,  
I read about your informative newsletter in the "ISCOWP NEWS.">

We don't know what this publication is, but would appreciate getting a copy.

>We are a rural 'ashram' or project in Bangladesh concerned with self-reliance, and such related environmental & social issues. We produce much of our own food, shelter (mostly mud), as well as our own paper (from water hyacinth & rice hay), cold-pressed oil, vegetable inks, and so on...

We are just recovering from one the greatest floods in living history (and that's saying a lot in a country that floods regularly, several times a year). Some of our buildings were damaged, and need rebuilding. Winter fast is approaching and it's the traditional or preferred time for construction of all kinds. From what we have read & heard, are particularly interested in introducing straw-bale construction. It may be an efficient & low-cost solution to construction here. We have plenty of rice straw that we grow organically using only oxen.

The principal question may be the rather hot & humid climate here. Of course without your experience, we'll never really know.>

There IS enough historical and current information to cautiously recommend straw-bale construction in a hot humid climate. Moisture being the "enemy," two building strategies seem to be most appropriate:



#1 - Design to keep the walls from being soaked during rain events. Usually this means designing wide overhanging roofs or porches. Back splash from rain falling off the roof is also important to avoid, as is wetting the bales from water flowing across the ground. Appropriately tall footings and diverting water around the house site should work fine.

#2 - A "breathable" plaster seems to be very important in allowing walls to dry out that accidentally do get wet. We advocate earthen or lime plasters rather than cement-based stuccos, and adamantly oppose "moisture barriers" (such as Tyvek or roofing felt) which professional "conventional" builders in the U.S. often use on their wood-frame homes. Earthen plasters are, of course, much cheaper as well, and it sounds as if mud is abundantly available to you.

We would certainly be interested in hearing about your experiences if you do choose to build with bales.

It is often useful (but not essential) to have on-site instruction in building with bales (especially at the beginning). Judy and Matts of Out On Bale could certainly provide that, as well as other straw bale builders we know. Let us know if you wish assistance with that as well.

One final thought - I recently returned from an international conference about bamboo and became aware that there are significant land-regeneration and low-cost building projects being accomplished in India. I believe that there are people working in India utilizing these techniques with bamboo poles as structure, and mud and straw as infill. Your mud plaster mix, by the way, sounds very effective and sticky. However, I would recommend a "moisture barrier" between your brick foundations and what ever wall system you choose to build on top, as bricks ARE porous and could wick water up into your wall system.

While I must admit I don't know him personally, perhaps the best person I could refer you to from the recent Bamboo Congress in Costa Rica is Professor A.G. Rao, Indian Institute of Technology in Bombay. His e-mail is agrao@idc.litb.ernrt.in He will certainly know who to talk to about bamboo housing projects.

Also a woman named Ritu Vāruṇī [ph. (30360) 214-949 c/o Aroti Mize Dongi Polo Vidya Bhawanitalagar, India, expressed a strong interest in traditional bamboo building and crafts, and seemed to have a lot of information about it. Sorry no e-mail.

Our best wishes for successful rebuilding!  
Best Regards,  
Catherine Wanek, Managing Editor  
The Last Straw, The Grassroots Journal of Straw Bale & Natural Building  
HC66, Box 119, Hillsboro, NM 88042  
(505) 895-5400 /fax (505) 895-3326  
thelaststraw@zianet.com  
<http://www.strawhomes.com>

From: iscowp@earthlink.net  
Subject: Re: Strawbale housing in Bangladesh  
Date: Thursday, December 03, 1998 7:39

Nistula Prabhu writes:  
>As it seems machine-bales are the standard,  
we're left in the dust.>

Good news, you are not left in the dust, you may ask for blueprints from the following companies that make hand balers:

1) Herrandina, Marte 581, Brena, Lima 5, Peru  
2) Carib Agro-industries Ltd., Research Centre, Edgell, St Thomas, Barbados 3)Jetmaster (PVT) LTD, PO Box 948, Harare, Zimbabwe

Also Balabhadra remembers that Tillers had someone in Tanzania that was making hand balers. Tillers address: refer to page 194

## RESOURCES

*We have a library in our home of many books and catalogs covering a wide range of topics which we have found useful for our everyday life here on our farm and for future planning. The resources that are starred are those in our library. The other titles would be a nice addition.*

### CATALOGS/SOURCEBOOKS

( a variety of agricultural, animal husbandry, animal traction, homesteading topics)

**\*Appropriate Technology Sourcebook: A Guide to Practical Books for Village and Small Community Technology**

by Ken Darrow and Mike Saxenian.

A Volunteers in Asia publication.

Volunteers in Asia, P.O. Box 4543, Stanford CA 94309 USA (fax 415-725-1805).

Also available from Intermediate Technology publishers, London. 1993, 800 pp.

ISBN 0-917704-17-7 (paperback) 0-917704-18-5 (hardbound).

This is the latest edition of the guide to practical books on village and small community technology. Over 50,000 copies of previous editions have been used in more than 130 countries, to find a wide range of published technical information that can be used by individuals and small groups. In the new edition, 1150 publications from international and U.S. sources are reviewed, covering small water supply systems, renewable energy devices such as water mills and improved cook stoves, agricultural tools and implements, intensive gardening, workshop tools and equipment, crop preservation, housing, health care, forestry, aquaculture, non-formal education, small business management, transportation, small industries and other topics. Extensive index. Price and ordering information are provided for each publication. 500 illustrations.

The \*Sourcebook\* can also be used as the index for the Appropriate Technology microfiche Library, which contains the complete text of 100 books. Complete sets of the

microfiches library ["Library in a Shoe Box"] are also available from the publishers at low cost.

**\*Cumberland General Store Catalogue**

#1 Highway 68, Crossville TN 38555

USA. Phone 1-800-334-4640, fax 931-456-1211 (and on the WEB). "

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USA. Phone 330-857-5757, Fax

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901 Janesville Ave, PO Box 901, Fort Atkinson WI 52538-0901. Phone 1-800-558-9595, fax 920-563-8296, e-mail

info@nascofa.com. (Probably also on WEB).

Wisconsin is the heart of American dairy country. All dairy and cattle supplies, including bloodless castrators or emasculators to convert bulls or bull calves to oxen with minimum discomfort to the animal.

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 Schoolhouse Rd, Pownal, Vermont, 05261  
 1-800-441-5700 (8:30 AM – 10:00 pm 7 days a week)

Books that encourage personal independence in harmony with nature and the environment. Titles on building barns, sheds; animals, herbs, gardening, country living skills, Country Wisdom Series that includes titles on everything from earthworms to building an underground root cellar,

**\*Tools for Agriculture**

A buyers guide to appropriate equipment for small holder farmers  
 Ian Carruthers & Marc Rodrigues, I.; 4th Edition  
 1998, 248 Pages, Soft-cover  
 ISBN 1 85339 100 X (92 Edition)

Available from: Acres USA,

Intermediate Technology Publications Ltd, The International Technology Development Group has created a unique tool: this directory of tools, implements and small scale machinery such as maize shellers, grain cleaners, and solar pumps. Experts in each field review the equipment, giving information about how & when to use it. All aspects of agriculture are covered from animal power to water lifting and transport. Suppliers & manufacturers from over 70 countries are listed. Invaluable to development workers and farmers worlds wide.

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\*\*\*\*\*

**SEEDS**

**The Abundant Life Seed Foundation**

PO Box 772, Port Townsend, WA 98368

This is a non-profit organization that has been dedicated to preserving the genetic diversity of plants for 25 years. They publish a yearly seed and book catalog that many will find to be a valuable resource. Their seed offerings include herbs and grains. They have seven pages of book titles on gardening, agriculture and sustainable living.

**\*Bountiful Gardens**

A project of Ecology Action  
 5798 Ridgewood Road, Willits CA 95490  
 Phone/FAX 707-459-6410  
 e-mail [bountiful@zapcom.net](mailto:bountiful@zapcom.net)  
<http://countrylife.net/ecoaction>

Bio-intensive, organic, and naturally-grown seeds, untreated and open-pollinated offered internationally.

**Garden Seed Inventory**

by the Seed Savers Exchange [directory to open pollinated seeds, info on where to order 6,438 standard vegetables)

If anyone is interested in a source for non-hybrid seeds there is a book printed by Seed Savers Exchange called Garden Seed Inventory that lists all such seed available in the US and Canada. Anyone who plants anything should think about growing non-hybrid varieties so that if disaster strikes and seed sources are no longer available, at least the planting can go on.

**Johnny's Selected Seeds**

Foss Hill Road, Albion, ME 04910, USA.

Johnny's, located in Albion, Maine cultivates 4000 varieties of seeds, acclimated to northern

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**Salt Spring Seeds**

Box 444, Ganges, Salt Spring Island, BC V8K 2W1, Canada

"Salt Spring Seeds offers only certified organic seeds for food crops. The emphasis is on high-protein, good tasting, and high yielding crops. The selection of grains, particularly hull-less wheat and barley, is extensive. All varieties are adapted to northern areas.

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Seeds and Seedlings are: 100% Certified organic 100% Open-pollinated (self-reproducing, non-hybrid) 100% GMO-free (no genetically modified organisms)

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The SSE offers rare and heirloom vegetable, fruit trees, and flower seeds from seed savers all across the USA and abroad. Roughly 8000 members worldwide.

**Thomas Ety Esq. Seedsman, Bulb Merchant**

45, Forde Ave Bromley, Kent BRI 3RU, England  
PH# 0181-466-6785

Seeds from Henry Doubleday Foundation gardens (which has over 700 varieties and their aim is to make available to farmers and growers the outlawed varieties that are not dependant on pesticides and chemical fertilizers) and Thomas Ety's, Seedsman, are offered through their catalogue and through Seed Savers Exchange

\*\*\*\*\*

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( a variety of agricultural, animal husbandry, animal traction, homesteading topics)

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Bimonthly magazine in support of farming and logging with horses, mules & oxen. Also a source of books.

### **\*Small Farmers Journal**

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Invaluable resource on all aspects of farming for smallholder farmers. Animal traction farming featured, emphasizing the use of horses and oxen. A lot of the information and books on horse traction is applicable to working oxen. Back issues available by topics.

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### **BOOKS/AGRICULTURE**

#### **\*An Agricultural Testament**

Pgs. 278 (1996) \$ 4.00

By Albert Howard

Available from Other India Press

The most famous organic farming book ever. Howard invented the Indore method of composting. His plants were so healthy, he would

intentionally release pests on them to show people how resistant they were. The classic, long out of print, has now been reissued as a joint publication of the Other India Press, Earth-care Books and Third World Network.

**\*Backyard Market Gardening, The  
Entrepreneurs Guide to Selling What You Grow**

By Andrew W. Lee

ISBN 0-9624648-0-5

Available from Rodale Press

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**Biodiversity Based Productivity: A Framework  
For An Alternative Economic Assessment For  
Sustainable Agriculture**

Pgs. 20 (1995) \$ 2.00

By Vandana Shiva

Available from Other India Press

Vandana Shiva compares monocultures with traditional polycultures and shows convincingly how the latter outperform the former on all grounds including total production.

**Carrots Love Tomatoes: The Secrets of  
Companion Planting**

By Louise Riotte, Pgs. 220

Available from: Acres USA Countryside &  
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Grow a better garden when you know the secrets of companion planting. Learn which plants nourish the soil, which keep bugs and pests away, and which plants just don't get along. You'll find it all in this book: 100's of companion planting tips Soil improvement techniques Diagrams, charts, and ideas

**Companion Plants, and How to Use Them**

By Helen Philbrick and Richard Gregg

The Devin-Adair Company, Old Greenwich,  
Connecticut, 06870

Library of Congress Catalogue Number: 65-19128  
17 printing 1991, ISBN 0-8159-5210-4

The classic book on the ecology of gardening and farming. This invaluable handbook answers the questions about plant symbiosis and antagonisms that have puzzled observers for centuries., providing an alphabetized list for instant checking of plants that may help or hinder the ones you are currently growing or planning to plant.

**Community Supported Agriculture:**

Refer to page 161

**\*Eco-Farm - an Acres U.S.A. Primer**

by Charles Walters & C.J. Fenzau,

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**Globalization of Agriculture and the Growth of  
Food Insecurity**

Pgs. 30 (1996) \$ 2.00

By Vandana Shiva

Available from Other India Press Globalization in agriculture means the corporatization of agriculture. This is bound to lead to enhanced food insecurity, which is a most undesirable option.

**Hands-on Agronomy**

by Neal Kinsey & Charles Walters

Available from Acres U.S.A.

The soil is more than just a substrate that anchors crops in place. An ecologically balanced soil system is essential for maintaining healthy crops. This is a comprehensive manual on soil management. The "whats and whys" of micronutrients, earthworms, soil drainage, tith, soil structure and organic matter are explained in detail. Kinsey shows us how working with the soil produces healthier crops with a higher yield. True hands-on advice that consultants charge thousand for every day. Updated, revised edition.

**\*Introduction to Permaculture**

by Bill Mollison with Reny Mia Slay.  
Tagari Publications, PO Box 1, Tyalgum NSW 2484, Australia. 1991,  
ISBN 0-908228-05-8  
Available from Acres USA

Permaculture is about designing sustainable human settlements. It is a philosophy and an approach to land use which weaves together microclimate, annual and perennial plants, animals, soils, water management, and human needs into intricately connected productive communities.

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**The Apple Grower**

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**\*The Backyard Orchardist**

By Stella Otto  
Available from Chelsea Green Publishing Co.  
ISBN 0-9634520-3-7

A complete guide for growing fruit trees in the home garden

**\*The Edible Ornamental Garden**

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All sorts of unusual dishes are possible when ornamentals are explored for their flavor and aroma as food, many uses of which are buried in history. As certain plants were developed specifically for food, edible portions of others more notable for their eye-appeal were forgotten.

**\*The Encyclopedia of Natural Insect and Disease Control**

by Roger B. Yepsen  
ISBN 0-87857-488-3 Hardcover  
Available from Rodale Press

The most comprehensive guide to protecting plants-vegetables, fruits, flowers, trees, and lawns-without toxic chemicals.

**\*The New Organic Grower**

by Eliot Coleman  
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(Pat Stone, Mother Earth News)

Eliot Coleman's new book will help market gardeners establish the vital-and-profitable link

between farm and city during the 1990's. Every small-scale grower and serious gardener should have a copy. (Robert Rodale)

**The New Organic Grower's Four-Season Harvest: How to Harvest Fresh Organic Vegetables from Your Home Garden All Year**

Long by Elliot Coleman. Chelsea Green Publishing Company, PO Box 130, Rt 113, Post Mills VT 05058-0130, USA. ISBN 0-930031-57-1, 212 pgs

Eliot Coleman now shows you how to produce fresh, delicious, healthy food from your home garden year-round. He shows you how to harvest organically-grown vegetables throughout the coldest months in all climate zones with very little extra time or effort. His success depends on growing a large variety of vegetables each suited to their season and on simple, inexpensive designs for cold frames, unheated mobile greenhouses, and root cellars.

**The Non-Toxic Farming Handbook**

by Phillip A. Wheeler, Ph.D. & Ronald B. Ward, paperback 236 pages; Available: Acres U.S.A.

In this readable, easy-to-understand handbook the authors explain:

- \*What's wrong with conventional agriculture
- \*Weeds - their role in nature and control
- \* Insects - why they attack crops and how to stop them
- \* Soil testing and analysis - and acting upon the results
- \* On-farm methods of soil and plant tissue testing
- \* Soil fertility and fertilizers
- \* pH, lime, N, P & K, and other major and minor nutrients
- \* Working with foliar feeds to maximize crop health and production

**\*The One-Straw Revolution**

By Masanobu Fukuoka  
Available: Rodale Press, 1978, Other India Press  
ISBN 0-87857-220-1

“Like many in the West, and sooner than most of us, Masanobu Fukuoka has understood that we cannot isolate one aspect of life from another. When we change the way we grow our food, we change our food, we change society, we change our values.....\*The One-Straw Revolution\* is an inspiring , necessary book about agriculture because it is not just about agriculture.” Wendell Berry

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Third Edition, by Grace Gershany & Joseph Smillie 174 pgs

ISBN 0-9616496-0-7

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Editor: Fern Marshall Bradley

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ISBN 0-87596-599-7 Soft cover

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**\*Small is Beautiful, Economics As If People Mattered**

by E. F. Schumacher 304 pages, 7 3/8 x 9 1/4 in., Trade Paperback \$19.95 USA/\$24.95 CAN; ISBN: 0-88179-169-5

Hartly and Marks, Vancouver, Canada  
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### **\*Ten Acres Enough**

By Edmund Morris, Ralph C. Miller, Lynn R. Miller

ISBN 1-885210-02-7 Soft Cover

ISBN 1-885210-03-5 Hard Cover

Available from Small Farmer's Journal

An unabridged reprint of the 1864 classic. How a very small farm may be made to keep a very large family.

### **Violence of the Green Revolution**

by Vandana Shiva

Pgs. 265 (1997) \$ 6.00

Second Indian reprint. Shiva documents the awesome destruction of genetic diversity and soil fertility involved in the making of the green revolution. She also documents the true environmental horrors associated with it, giving statistics where required.

### **Weeds, Control Without Poisons**

by Charles Walters, Jr.

Available from Acres USA

Charles Walters, founder and longtime editor of *\*Acres U.S.A.\**, has revised and expanded his now classic text on the secrets that weeds reveal to us about our soil. For a thorough understanding of the conditions that produce certain weeds, you simply can't find a better source than this one - certainly not one as entertaining, as full of anecdotes [stories] and home-spun common sense.

### **SEEDS**

#### **\*Rapid Clonal Multiplication of Rice Seed**

By R.H. Richharia

Pp. 14 \$1.00

Available from Other India Press

From the eminent rice scientist, R.H. Richharia, you can learn through this booklet how to raise a million seedlings from a single seed through the new technique invented by him. Best way to multiply traditional rice cultivars.

#### **\*Seed to Seed: Seed Saving Techniques for the Vegetable Gardener**

by Suzanne Ashworth. Edited by Kent Whealy.

Seed Savers Exchange, Inc.,

Rural Route 3, Box 239, Decorah, IA 52101,

USA. 1991, 222 pgs. ISBN 0-9613977-7-2.

*\*Seed to Seed\** is a complete seed-saving guide for 160 vegetable crops, with detailed information on each vegetable: botanical classification, flower structure and pollination method, isolation distances, caging and hand pollination techniques, and proper methods of harvesting, drying cleaning and storing the seeds. Beginning or experienced gardeners can easily learn how to save all of their own seeds, resulting in substantial annual savings and the satisfaction that comes from a garden which is truly self-perpetuating.

#### **The Seed Keepers**

Vandana Shiva, Vanaja Ramprasad, Pandurang

Hegde, Omkār Krishnan, Rādhā Holla-Bhar

Pgs. 156 (1995) \$ 7.00

Available from India Press

Extensive documentation and introduction to farmers who are still maintaining traditional seeds in their fields. Color pictures.

\*\*\*\*\*

### **ANIMAL TRACTION/OX POWER**

#### **BOOKS/PUBLICATIONS**

##### **\*Animal Powered Systems**

Peter Lowe, Deutsches Zentrum für

Entwicklungstechnologien – GATE (German Appropriate Technology Exchange, Deutsche Gesellschaft für Technische Zusammenarbeit

(GTZ) GmbH, Post Box 5180, D-6236 Eschborn 1, Federal Republic of Germany, Tel: (061 96) 79-0, First Edition, ISBN 3-528-02023-7

With the aid of more than 60 illustrations the brochure shows possible uses for the power gear technique. The author has referred to historical sources of information from Europe and North America, as well as his own more recent research work in regions where the power gear technique is increasingly being used at present, as for instance in Egypt. Over and above the circle of experts on draught animal usage, this brochure is addressed to persons who would like more insight into the condition under which traditional and historical techniques can provide answers for current technological needs.

**\*Ox Power - Ki Jaya! An Ox Power Handbook**  
by Paramānanda dās, former Minister of Agriculture for ISKCON (available for US \$5.00 from Hare Kṛṣṇa dāsi, 9B Stetson St., Brunswick ME 04011, USA - 40 pages) or viewed on [www.iscowp.com/www.iscowp.org](http://www.iscowp.com/www.iscowp.org)

**\*4-H Working Steer Manual**  
Dwight E. Barney, Extension Publication No 33, Cooperative Extension Service, University of New Hampshire

**\*Animal Traction**  
Peter Watson, Fourth Edition, 1983 by Artisan Publications, 139 Division Ave., Summit, N.J. 07901

This manual is a guide for people who are learning how to harness animal energy and use it to power farm equipment. It is written for Peace Corps Volunteers and agricultural extension personnel who are helping farmers introduce or upgrade animal-powered farm systems. It is equally intended for those who are teaching themselves to farm with draft animals, or drive teams. Many illustrations.

**\*Oxen - a Teamsters Guide**  
Author: Drew Conroy

Details: 360 pages, 5.5x8.5 paperback  
ISBN: 1-893707-08-3  
Rural Heritage, Gainesboro, Tennessee, 38562, USA, <http://www.ruralheritage.com/bookstore/index.htm>

Contents:

1. Selecting the Ideal Team
2. Housing Your Oxen
3. Feeding Your Oxen
4. Principles of Training
5. Training Steers
6. Advanced Training
7. Training Mature Cattle
8. Yoke Styles
9. Making a Neck Yoke and Bows
10. Hitching Options
11. Oxen in Agriculture
12. Logging with Oxen
13. Working Oxen in Public
14. Competing with Oxen
15. Keeping Oxen Healthy
16. Hoof Care
17. The Problem Team
18. Oxen in History
19. International Development



**\*Horse Drawn Tillage Tools**  
ISBN 1-885210-12-4 Soft Cover  
ISBN 1-885210-13-2 Hard Cover  
Available from Small Farmer's Journal  
This book is primarily a compilation of materials from the exhaustive archival library of Small Farmer's Journal, from SFJ friends and from a handful of present-day manufacturers of new implements. Extensively illustrated.

**Haying With Horses**  
By Lynn R. Miller  
Available from Small Farmer's Journal  
A comprehensive manual focusing on horse drawn lose hay systems covering all the equipment variable including mowers, rakes, stackers, wagons, loaders, fore carts, and balers. Extensive technical information on mower tune up. Exhaustive illustrations of different horse

drawn hay tools. Procedural diagrams. Includes mower tune up. Exhaustive illustrations of different horse drawn hay tools. Procedural diagrams. Includes information on loose hay feeding techniques. Most horse drawn hay equipment can be used by oxen.

**\*Horsedrawn Plows & Plowing**

By Lynn R. Miller

Small Farmer's Journal Inc., First Edition, Feb. 2000

ISBN 1-885210-08-6 Soft cover

ISBN 1-885210-09-4 Hard cover

300+ pages with hundreds of drawings and photos covering how to plow with horses using older equipment and new implements. Here you will find simple diagrams explaining tricky adjustments for both riding and walking plows. Detailed engineers drawings of John Deer, Oliver, McCormick Deering, Parlin Orendorff, Avery, and many other older manufacturers will be immensely helpful to folks restoring equipment. Also includes close up photos and information on new makes of animal-drawn plows including Pioneer and White Horse. Most horse drawn equipment can be used by oxen.

**\*An Introduction to Working Animals**

by J. Lindsay Falvey PhD, MPW Australia, 302-304 Little Lonsdale St, Melbourne 3000, Australia,

First Edition, ISBN 1-86252-992-2

Dr. Falvey and his associates have brought together in a readable and concrete form what is now known about the origins, use and management of the world's working animals. The result will be extremely useful to students, teachers and extension workers in many parts of the world. It also serves to highlight the enormous gaps in our knowledge of such an important subject and, hopefully, will stimulate research and extension workers to pay more attention to what is, without doubt, the most ignored aspect of world animal production.

**\*In Praise of Oxen**

By Terry James

Nimbus Publishing Limited

P.O. Box 9301 Station A

Halifax, Nova Scotia B3K 5N5

ISBN 1-55109-024-4

Available from Small Farmer's Journal

Inspirational photographs/description of Oxen .

**ORGANIZATIONS**

**Tillers International**

5239 South 24<sup>th</sup> St.

Kalamazoo, MI 49002 USA

Phone: 616/344-3233 or 1-800/498-2700

WEB Site: [www.wmich.edu/tillers/](http://www.wmich.edu/tillers/) E-

mail: [TillersOx@aol.com](mailto:TillersOx@aol.com)

Classes in animal power, farming, blacksmithing, and wood working, small farm and crops.

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Tillers' mission is:

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**International Society For Cow Protection  
ISCOWP**

RD 1 Box 322 A

Moundsville, WV 26041

Tel# 304 -843-1658

E-mail: [iscowp@earthlink.net](mailto:iscowp@earthlink.net),

WEB: [www.iscowp.com/www.iscowp.org](http://www.iscowp.com/www.iscowp.org)

Vaiṣṇava training of teamsters and oxen.

**VIDEOS/DVD**

**\*Basic Training of Oxen**

[with Drew Conroy of Tillers International, voice commands]

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CO 80535 (phone  
1-800-728-3826 or 970-221-2834; fax 970-482-  
8621) [Dr. Doug Butler is a  
certified journeyman farrier (one who cares for  
animal hooves).]  
Advanced Training of Oxen;  
Cattle Hoof Care.

**\*How to Train Oxen by Voice Commands**  
Balabhadra dās (William E. Dove shows step by  
step how to train a young team of oxen)  
DVD available  
From ISCOWP  
RD 1 Box 322-A  
Moundsville, WV, 26041  
Tel# 304-843-1270  
E-mail: iscowp@earthlink.net

\*\*\*\*\*

### BOOKS/COMMUNITY

#### **Buying and Setting Up Your Small Farm or Ranch**

By Lynn R. Miller  
Available from Small Farmer's Journal  
This new illustrated book offers some uniquely  
modern and helpful information geared towards  
assisting people to "land" a new small farm  
operation of their own. Beginning with the  
"what fors" and "where fors", and walking  
carefully through the pitfalls and challenges of  
the looking and buying process, this book could  
save the prospective farm buyer time, money,  
and headache. If you are dreaming of a small  
"working place" in the country where you can  
grow your own food, and some to sell, this book  
will help mold your dreams into a working plan  
of action. If you're into the process of trying to  
buy a farm and stymied by all the gibberish and  
forms and salespeople. This book should even the  
odds for you.

An added attraction of this text are the  
chapters dealing with the peculiar and specific  
needs of a farm that is to be operated by animal  
power (whether as sole power source or in

tandem with tractors).

**\*Fear Not to Sow Because of the Birds**  
by Paul Keene  
ISBN 0-87106-666-1  
Essays on Country Living and Natural Farming  
from Walnut Acres  
by Paul Keene, Dorothy Z. Seymour, Dorothy  
Jane Mills  
ISBN: 0-871066-661  
Publisher: Globe Pequot Pr  
Pub. Date: December, 1988  
Amazon.com Price: \$17.95

Inspired by his experiences in India and his  
conversations with Mahatma Gandhi, Keene  
began Walnut Acres-one of the first and most  
successful organic farms in the USA. This book  
is about living life according to simple, natural,  
and basic principles, as land stewardship, and  
finding greatjoy in it.

**\*The Home Water Supply**  
(How to Find, Filter, Store, and Conserve it)  
by Stu Campbell  
Alpine Press, USA, 1986, Third Edition  
ISBN 0-88266-324-0

Stu Campbell provides concrete and money-  
saving answers to questions that range from  
locating water to digging a pond to hooking up  
the plumbing in your home. You'll know when to  
try something yourself, when to call a plumber or  
other expert.

You'll learn: How to find water How to move it  
How to purify it, and how to store and distribute  
it in your home

#### **\*Speaking About Varṇāśrama, Śrīla Prabhupāda on Varṇāśrama and Farm Community Development**

Compiled by Hare Kṛṣṇa devī dāsi  
Editor: Sureśvara dās  
Bhaktivedanta Book Trust  
Bhaktivedanta Archives  
P.O. Box 255, Sandy Ridge, NC, 27046, USA  
PH# 336-871-3636, archives@earthlink.net

ISBN 0-89312-316-3 (Volume 1)

Śrīla Prabhupāda presents a vision of a spiritual society. Citing Bhagavad-gītā, he advocates Varṇāśrama dharma, a social institution in which people gain spiritual satisfaction and spiritual advancement by doing their daily work as an offering to God.

## HOUSING

### **\*A Logbuilder's Handbook**

By Drew Langsner

Available from Rodale Press

ISBN 0-87857-416-6 hardcover

ISBN 0-87857-419-0 paperback

This book is a thorough how-to manual filled with clear instructions and sound advice.

### **Bhartiya Vastugyan**

Pgs. 176 (1996) \$ 5.00

By Pt. Jagdish Prasād Sharma

Available from Other India Press

Explains the principles behind vaastu architecture and is fully illustrated with house plans. **\*Serious Straw Bale, A Home**

### **Construction Guide for all Climates**

By Paul Lacinski and Michel Bergeron

ISBN 1-890132-64-0

Available from Chelsea Green Publishing

A superior resource, covering so much ground that no other straw bale book does, with clarity and wit. An excellent, vital addition to the thinking person's literature of straw bale. (Mark Piepkorn, *The Last Straw*)

### **\*Shelter**

Edited By Lloyd Kahn

Shelter Publications, P.O. Box 279, Bolinas, CA. 94924 USA

Ph# 415-868-0280, Fax# 415-868-9050

E-mail: shelter@shelterpub.com, orders:

orders@shelterpub.com, catalog:

catalog@shelterpub.com

www.shelterpub.com

ISBN 0-936070-11-0

With over 1000 photographs, Shelter is a

classic celebrating the imagination, resourcefulness, and exuberance of human habitat. First published in 1973, it is not only a record of the counter-cultural builders of the '60s, but also of buildings all over the world. There is a history of shelter and the evolution of building types. Tents, yurts, timber buildings, barns, small homes, domes, etc. There is a section on building materials, including heavy timber construction and stud framing, as well as stone, straw bale construction, adobe, plaster and bamboo. There are interviews with builders and tips on recycled materials and wrecking.

### **\*The Natural House Book**

By David Pearson

A Gaia Original

Published by Simon and Schuster/Fireside

ISBN 0-671-66634-7

ISBN 0-671-66635-5 (pbk)

Provides both inspiration and easy, practical suggestions for using toxin-free materials, improving air and water quality, saving energy, and designing or adapting every room for holistic living-toxin-free, elegantly simple, environmental benign, and nourishing to the body, mind, and spirit.

### **\*The Straw Bale House**

by Athena Swentzell Steen, Bill Steen, David Bainbridge, with David Eisenberg

ISBN 0-930031-71-7

Available from Chelsea Green Publishing

Describes the many benefits of building with straw bales:

- 1) Super insulation with R-values as high as R-50
- 2) Good indoor air quality and noise reduction
- 3) Speedy construction process (walls can be erected in a single weekend)
- 4) Construction costs can be as little as \$10 per square foot (depending on owner involvement)
- 5) Use of natural and abundant renewable resource can be grown sustainably in one season
- 6) A better solution than burning agricultural waste straw, which creates tons of air pollutants

**Vaastushastra and the 21st Century**

Pgs. 95 ( 1996) HB \$ 6.00

by Bharat Gandhi

Available from Other India Press

Vastushastra deals with architecture at the material and psychological levels. Examines how much the concept is valuable in our times and delves thereby deeply into the reasoning behind the ancient genre of architecture.

**HOUSING PUBLICATONS**

**\*The Last Straw**

**The International Journal of Straw Bale and Natural Living,**

Last Straw Production Team, HC 66 Box 119,

Hillsboro NM 88042 USA

PH: 505-895-5400, FAX: 505-895-3326

e-mail: thelaststraw@strawhomes.com

www.strawhomes.com

This journal is an information-sharing forum created for and by many individuals involved with and interested in straw-bale construction.

**SKILLS**

**\*Foxfire**

By The Foxfire Fund, Inc.

Post Office Box 541

Mountain City, GA 30562-0541

PH# (706) 746-5828, FAX: (706) 746-5829

foxfire@foxfire.org, www.foxfire.org

A series of books recording the lives and practical skills of the "old timers" of the Apalachian mountains. Such topics as: log cabin building, mountain crafts, spinning and weaving, wagon making, midwifing, corn shuckin', wild plant foods, butter churns, ginseng, spring houses, sassafras tea, berry buckets, gardening, iron making, blacksmithing, a water-powered sawmill and other fascinating topics.

**\*The Forgotten Crafts, A practical guide to traditional skills**

by John Seymour

Distributed by Outlook BOOK Company, a Random House Company, 225 Park Avenue

South, New York, new York, 10003,

Published by Portland House

ISBN 0-517-05400

Making wagon wheels, barrels, rakes...building walls of mud brick or sod...laying hedges...spinning and weaving...burning charcoal-these and dozens of other traditional crafts were once part of everyday life. Today they are on the edge of extinction. This book shows and describes in fascinating detail just how they were done.

**\*The Lore of the Land**

by James Seymour

ISBN 0-8052-3836-0

Skills in humane land care.

**\*Stocking Up III**

by Carol Huppig and Rodale Press

Available from Rodale Press

627 pages

ISBN 0-87596-613-4 Hardcover

Preserving your own food is not only fun and delicious - it's also cheaper and healthier, too! You'll love these hints, tips and step-by-step instructions for freezing, canning, drying and storing just about every food imaginable. Plus hundreds of simple recipes so you can make your own jams, jellies, pickles, relishes, cheeses, ice cream, beverages, breads, and more!!

**TOOLS**

**Farm Conveniences and How to Make Them**

By Dennis Boyles

Available from Small Farmer's Journal

A fascinating volume abounding in valuable hints and suggestions for the easy and quick construction of homemade farming and homesteading devices. First published in 1884, it contains the best ideas gathered from farmers, and teaches valuable lessons in rural economy. Also an everyday handbook, it provides instructions on; how to use wastelands, prevent the washing of hillsides, harvest manure, build shelters, and much more.

**\*Handy Farm Devices, and How to Make Them**

By Rolfe Cobleigh

Lyons Press, 123 West 18 St. New York, NY 10011  
ISBN 1-55821-432-1Available from: Small Farmer's Journal,  
Acres USA

A classic from the Golden Age of American Farming, is as useful and pertinent for homesteaders and small scale farmers today as it was when it was first published more than seventy-five years ago. A wealth of labor and money-saving projects fills its pages: spill-proof chicken waterers; a light weight orchard ladder; a small truss bridge; an easy fence-post and stump-puller; gates that don't sag; gates that lift over snow drifts; a handy wood splitter – even a bicycle-powered washing machine.

**\*Water Lifting Devices,**

by P.L. Fraenkel

Food and Agriculture Organization of the  
United Nations, (FAO), 1986,Via delle Terme di Caracalla,00100, Rome Italy  
First Edition, ISBN 92-5-102525-0

The primary purpose of this paper is to provide a basis for comparing and choosing between all present and (near) future options for lifting irrigation water on small and medium sizes land-holdings (generally in the range 0.25 ha to say 25 ha).

\*\*\*\*\*

**BOOKS/COW****BREEDS/BREEDING****A Field Guide to Cows: How to Identify and Appreciate America's 52 Breeds**

By John Pukite

Pub, Penguin , June 1, 1998

ISBN: 0-14027-388-3

Available at [www.bn.com](http://www.bn.com) (Barnes & Noble)

In A Field Guide to Cows, John Pukite provides all the facts--so even the novice can identify and get to know America's fifty-two breeds of cattle. Every entry in this entertaining yet completely usable book features an

illustration that highlights each breed's most easily identifiable traits, such as coloration pattern and body shape.

**Cattle of the World: Their place in the Human Scheme-Wild Types and Modern Breeds in Many Lands**

By Sanders, Alvin Howard

1926 National Geographic

144 illustrations

Internet

<http://www.ansi.okstate.edu/BREEDS/cattle>

(Oklahoma State University Board of Regents)

<http://allcows.com/world/index>**Home Course in Animal Breeding,**

Volumes 1-10, set of 10 pamphlets, illustrated

by Palmer, Prof.C.C. DMV

Available at [www.bn.com](http://www.bn.com) (Barnes & Noble)

Pleasant Hill School of Animal Breeding, 1974

Includes horses, cattle, sheep, swine. Sections on anatomy, genetics, managing pregnancy &amp; birth, natural and artificial breeding, and sterility

**COW CARE****Caring for Cows**

By Valerie Porter with illustrations by Sally

Seymore

Available from Diamond Farm Book Publishers

A guide to cow keeping that places primary emphasis on the welfare of the cow and on organic principles. There is no need, as the book shows, to put a strain on the cow's udder nor to cause anguish by separating cow and calf almost at birth, sensible information is included on all aspects of care: feeding, housing, breeding, health, milking and dairy produce. 15 b & w photos; many line drawings. 144 pgs

**\*Cow Protection, An Imperative**By Arun Bhatt and Sarvanarayan dās, foreword  
by Vimalā ThakurPublished by: Bombay Sarvodaya Friendship  
Centre, Friendship Building, Kaljupada Pipe  
Line Road, Kula, Bombay 400 072

PH# 022-861-3660

Dialogue at Deonar (Bombay) Asia's biggest slaughter house. A Satyagraha is conducted at its gate demanding:

- 1) a complete ban on slaughter of the cow and its progeny in a predominantly agricultural country such as India, and
- 2) An embargo on all meat-exports.

The street is crowded with bullocks, shortly to be led into the slaughter house. A group of visitors at the abattoir on a study tour is astonished at the sight of hundreds of healthy bullocks.

### **Dairy Cattle Selection, Feeding & Management**

Yapp, William Wodin and William Barber Nevens

Publisher NY: John Wiley & Sons, 1947

Available from Barnes & Noble [www.bn.com](http://www.bn.com)

Good Earth Books Evansville, IN

.3rd Edition. 5 1/2 x 8 1/4. 455 pgs, b & w photos.

Selecting the Dairy Cow; Choosing a Breed; Determining Milk and Butterfat Yields; Applying the Principles of Heredity to Dairy Cattle Breeding; Feeding the Dairy Cow During the Winter Season; Feeding the Dairy Cow During the Pasture Season; Preserving and Preparing Roughages for Dairy Cattle Feeding; Caring for and Marketing Dairy Products from the Farm; Rearing the Dairy Calf; Feeding and Developing Dairy Heifers; Managing the Dairy Herd; Treating the Ailments of Dairy Cattle; Buying and Selling Dairy Cattle; Planning and Equipping the Dairy Barn; Caring for Manure and Conserving the Soil; more.

### **The Family Cow**

by Dirk van Loon. Garden Way Publishing, Charlotte, Vermont 05445, 1976. ISBN 0-88266-066-7, 262 pgs.

The author, a Cornell graduate in agriculture [Cornell is a noted ag school], had extensive practical experience keeping a family cow at his home in Nova Scotia, where he also wrote children's books. Mr. van Loon sense a strong and logical trend back to family farming in many

areas of the United States and Canada. \*The Family Cow\* is complete, with data charts and tables, glossary of agricultural terms and source lists of books and equipment. Contents: History and behavior of the cow; Nutritional needs, from grass to milk; Buying a cow - the sources, breeds and factors to consider; Handling techniques, housing and fencing; Feeds and feeding - cow and calf; Milking and uses of milk; Health and diseases, breeding and calving; Growing feed crops, use of manure.

### **\*Protecting Cows: A Handbook Of The Principles & Practices Of Vegetarian Cow Husbandry**

Compiled & Written by

Śyāmasundara. dās (Stuart Coyle)

Farm Manager

Bhaktivedanta Manor Cow Protection Project

Hilfield Lane, Aldenham, Herts WD25 8EZ UK

Tel 01923 855350/857244

e mail [syamasundara@pamho.net](mailto:syamasundara@pamho.net)

Hatagra Publishing, 24 Western Road, Hove, Sussex BN3 1AF

1998, ISBN 9 9525882 1 8

Cow care from a Kṛṣṇa Conscious cow protector's view point. This book can be used as a guide to understand the more detailed information given about cow care by authors who are not lifetime cow protectors contained in this bibliography. Since ISCOWP recommends training oxen by voice commands as explained in Paramānanda dās's publication Ox Power - Ki Jaya! An Ox Power Handbook, Training oxen by Voice Commands by Balabhadra dās along with International authors like Drew Conway, the section of this book on the use of nose rings as an ox training method is not endorsed.

### **BARNS**

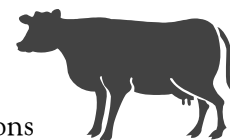
#### **Building a Multi-Use Barn**

by John D. Wagner

Over 300 photos and illustrations

Available from: Small Farmer's Journal

Storey's How To Books for Country Living





How many times have you wanted a barn for your gardening projects, workshop, storage space, or even a few animals? This guide shows how easy it is to build an elegant barn for all your needs. Fully illustrated chapters cover the barn building process from start to finish, and includes handy forms to aid in figuring out your total construction costs.

### **How to build Small Barns and Outbuildings**

by Monte Burch

Available from:

Small Farmer's Journal

Storey's How To Books for Country Living

Twenty budget-conscious projects for the do-it yourselfer are offered, with complete plans and step-by-step instructions. Projects include four types of barns; all-purpose, pole, horse, and milk, plus plans for garages, equipment sheds, greenhouse, workshop, home office, guest house and more. Chock full of clear drawings, plans, and photos this good book proceeds with the premise that everything needs to be explained.

### **Sheds, The Do It Yourself Guide for Backyard Builders**

By David Stiles

Available from Storey's How To Books for Country Living

Here's everything you need to build more than a dozen different sheds. Includes easy-to-follow, step-by-step diagrams and instructions, plus practical considerations such as use, size, cost, placement, and degree-of-difficulty.

### **\*BOOKKEEPING**

#### **Small Farm Book Keeping**

By Lynn R. Miller

Mill Press, 1983

ISBN 0-9607268-4-5

Available from Small Farmers Journal

This book is designed as a tool to help small farmers do a thorough, accurate job of recording all aspects of the farm enterprise. Careful conclusions, made from comprehensive records

and tempered or adjusted to reflect personal goals, can offer the strongest future for the small farm

### **FEEDING**

#### **\*Greener Pastures on Your Side of the Fence: Better Farming with Voisin Management Intensive Grazing**

by Bill Murphy

Arriba Publishing, 212 Middle Road, Colchester, Vermont 05446, USA.

Third Edition, 0-9617807-2-X, 353 pp.

Here's where you learn the modern-day version of the rotational grazing method begun by those most famous cowherds of all, Kṛṣṇa and Balarām.

#### **Grass Productivity**

By Andre Voisin

Available from Small Farmer's Journal

This is the book, originally printed in 1959, that started a worldwide revolution in thought, and practice, about grassland management. Voisin was a scientist who also raised livestock. His patient eye and analytical mind resulted in this book which structures his observations, conclusions and practices into a formula any farmer and rancher may use to excellent advantage.

### **FENCING**

#### **Building Stone Walls**

by John Vivian

Garden Way Publishing Book, Pownal, Vermont, 05261, Ninth Printing, 1987, ISBN 0-88266-074-8

Building Stone Walls tells you all you need to know to build your own sturdy walls. Carefully detailed, clear drawings show the techniques to follow – and how to avoid problems.

#### **Fences for Pasture and Garden**

By Gail Damerow

Available from:

Countryside & Small Stock Journal

Storey's How-To Books on Country Living

The fencing bible for the 90's – a complete guide to choosing, planning, and building today's best fences. Types of fences include wire, rail, electric, high-tension, temporary, woven, and snow. Chapters on gates and trellises.

**Fences, Gates and Bridges and How to Make Them**

by George A. Martin

Available from Acres USA

An instructive guide to the best methods of building an incredible variety of these devices for all regions and weather conditions. Written in 1990, this book is a functional pocket manual as well as a testament to American ingenuity, born out of necessity and practicality. The section on fences boasts an impressive medley of materials and designs, including the zigzag fence, the cheap and portable barbed-wire fence, and a sampling of sod and stone fences. The second segment of the book includes instruction on making and setting posts, as well as the construction and installation of swinging gates, sliding gates, pulley gates, and more. The third and final section consists of information on a number of bridges, depicting a wide selection of them designed for crossing gullies and culverts, as well as ornamental bridges for gardens and walkways.

HEALTH CARE

**A Veterinary Book For Dairy Farmers**

Roger Blowey

HB 496 PGS 240 PHOTOS (35 COLOR)

Available from [www.Diamondfarm.com](http://www.Diamondfarm.com)

An indispensable book for every dairy farmer. Roger Blowey deals with the full range of cattle ailments, grouped broadly according to the age and development of the animal. Emphasizes preventive medicine.

**Mastitis Control In Dairy Herd**

Roger Blowey & Peter Edmondson

HB 208 PGS 122 COLOR PHOTOS

No dairy farmer can afford to ignore the cost of mastitis. This timely book deals with this problem in depth. It starts with a clear account of what mastitis is, and how it is related to the structure of the teat and udder. A chapter is devoted to teat infection as one of the most important preventive measures, and subsequent chapters then cover the environment and mastitis, somatic cell counts and TBC's. The authors aim to offer good practical information, backed up with specially prepared photos.

**\*Natural Cattle Care**

By Pat Coleby

ISBN 0-911311-68-8

Available from Acres USA

Natural Cattle Care encompasses every facet of farm management, from the mineral components of the soils cattle graze over, to issues of fencing, shelter and feed regimens. How you farm determines the health of your livestock. Natural Cattle Care is a comprehensive analysis of farming techniques that keep the health of the animal in mind.

**\*The Complete Herbal Handbook for Farm and Stable**

By Juliette de Bairacli Levy.

Faber & Faber, London & Boston, Fourth edition  
ISBN 0-571-16116-2, 471 pgs. \$16.99 (Canada).

Available from Acres USA

With the growing interest in organic farming and increasing concern about the diet of farm animals, this completely updated edition of Juliette de Bairacli Levy's pioneering book will be welcomed by all farmers and smallholders who would like to increase their knowledge of proven herbal treatments.

"Every farmer should have this book for, used with common sense in combination with modern veterinary and farming methods, it could help us to avoid some of the mistakes stemming from unlimited use of chemical fertilizers, insecticides, antibiotics, and the like." - Farmers Weekly.

**\*The handbook of Veterinary Homoeopathy**

by John Rush

ISBN 81-7021-228-6

Available from B. Jain Publishers, check also Homeopathic Medicine for Animals and Humans: Best Links in the Sourcebook section  
Very easy to understand. Diagnoses disease and prescribes treatment.

**\*The Treatment of Cattle by Homoeopathy**

By George Macleod

ISBN 0-85207-247-3

Available from Washington Homeopathy Prod.  
33 Fairfax St. Berkely Springs, WV 25411, USA  
Info: 304-258-2541, Orders: 800-336-1695, Order-on-line at:  
www.homeopathyworks.com

The aim of the homeopathy approach is to build up the health of the herd and increase the resistance of its individual members to disease. Homeopathy remedies are all derived from natural sources and George Macleod outlines the homeopathy approach to the commoner diseases of cattle.

**Vet Clinic**

A vet clinic has been added to www.ruralheritage.com. Beth A. Valentine PhD, DVM, of Cornell University is the virtual vet, online to answer your questions related to draft animal health issues.

**HOOF-CARE****Cattle Footcare & Claw Trim**

By E. Toussaint Raven

PB 128 PGS 276 Illustrations

Available from Diamond Farm Book Publishers

A superbly illustrated book which combines a guide to the causes, progress, treatment and prevention of foot ailments with a practical manual on claw trimming

**Cattle Lameness and Hoofcare**

By Roger Blowey

HB 96 pgs. 90 color photos 54 line drawings

A comprehensive and fully illustrated guide to the causes and prevention of cattle lameness. Common foot diseases are fully described together with details of hoof anatomy, overgrowth and trimming techniques. Strongly recommended.

**Keeping a Family Cow**

by Bret R. Luick, Joann S. Grohman,  
1998 4th Edition, Softcover, 180 pgs.,  
Available from Acres USA

**MILKING****Calving the Cow and Care of the Calf**

By Eddie Straiton

HB 144 Pgs 349 Photos (274 Color)

Available from Diamond Farm Book Pub.

This book gives practical instructions for handling the cow during a simple delivery, followed by advice for dealing with the various complications that can arise. He then gives directions for caring for the young calf and advises on common health problems which are likely to occur, always being careful to distinguish situations where veterinary assistance is required.

**TRANSPORTING****Information Resources for Livestock and Poultry Handling and Transport," 1990-1998**

Animal Welfare Information Center, National Agricultural Library, 10301 Baltimore Avenue, Beltsville, MD 20705-2351, USA

Telephone (301) 504-6212,

Fax (301) 504-7125,

E- mail awic@nal.usda.gov.

Contact: Brian Norris, ARS National Agricultural Library, Beltsville, Md., phone (301) 504-6778, fax (301) 504-5472,  
bnorris@nal.usda.gov.

A current guide to the "do's and don'ts" of transporting and handling farm animals is now available from USDA's National Agricultural Library. The new publication provides access to scientific, training and organizational resources

for farmers, livestock and poultry producers, researchers, animal caretakers and other animal handlers. The publication is available from NAL's Animal Welfare Information Center.

The publication contains bibliographic citations, audiovisuals, governmental and institutional guidelines, Internet resources, and expertise from individuals and organizations. A special section lists organizations concerned with livestock transport and handling issues. Information is provided on how to contact each organization either via electronic means or postal address and a brief summary of the resources and services each organization offers.

Preceding the bibliography is the article, "Assessment of Stress During Handling and Transport," by Temple Grandin, Ph.D., from Colorado State University. Dr. Grandin is a recognized authority in the field of livestock handling.

Copies of the publication are available free of charge while supplies last. NAL is part of the Agricultural Research Service, USDA's chief research agency. NAL is the largest agricultural library in the world and one of four national libraries in the United States, along with the Library of Congress, the National Library of Medicine and the National Library of Education.

## WATER

### **\*Earth Ponds**

(The Country Pond Maker's Guide)

by Tim Matson, 1982

Countryman Press, Woodstock, Vermont

4<sup>th</sup> Printing, ISBN 0-914378-86-4

Available from Small Farmer's Journal

This comprehensive guide includes setting, digging-in, sculpting, maintaining, and living with a country pond. The significance of water in ancient cultures, the lessons of the natural beaver pond, working with contractors. calculating capacities and aquaculture for beginners are among the useful topics covered. A

typical aquadome installation and a catalog of resources for the pond maker are also featured.

### **Earth Pond Sourcebook, The Pond Owners Manual and Resource Guide**

By Tim Matson

The author of the classic, best-selling book on ponds, \*Earth Ponds\*, presents new tips, techniques, and hundreds of resources to this guide. A huge growth of interest in ponds and aquaculture in recent years has spawned a wealth of new materials and suppliers, and new building and maintenance techniques. Tim Matson's \*Earth Ponds Sourcebook\* will tell you what you need to know, whether you're building a new pond or revitalizing an old one.



BUCK