

## Contents

<b>A. Basic principles of Fish farming</b>		
	<i>- Dr. Debasis Sasmal</i>	11
A.1 Fish biology		12
A.1.1 General ideas of fish		12
A.1.2 Body Shapes		13
A.1.3 Tails		14
A.1.4 Mouths		15
A.1.5 Color		15
A.1.6 Senses		16
A.1.7 Fish Behavior		17
A.1.8 Breathing		18
A.2 Selecting the site and type of fish farm		19
A.2.1 Site selection		20
A.2.2 Soil		20
A.2.3 Methods of site selection for pond construction		20
A.2.4 Water		22
A.2.5 Water temperature		22
A.2.6 Water salinity		22
<b>B. Fish farming practices- Dr. Debasis Sasmal</b>		23
B.1 Different pond types		23
B.2 Guidelines for pond design and construction		24
B.3 Fish culture in Pond		29
B.4 Fish food		31
B.5 Fish nutrition		33
<b>C. Maintenance and monitoring- Dr. Debasis Sasmal</b>		34
C.1 Oxygen		34
C.2 Water acidity, alkalinity and hardness		35
C.3 Turbidity		37
C.4 Toxic substances		37
C.5 Characteristics of liming materials		38
C.6 Application of liming materials		38
<b>D. Aquatic weeds and predators- Dr. Debasis Sasmal</b>		39
D.1 Algal bloom		39
D.2 Aquatic weeds		41
D.3 Eradication of weeds		41
<b>E. Selecting the fish species- Dr. Debasis Sasmal</b>		42
E.1 Need		42
E.2 Monoculture		44
E.3 Polyculture		45
E.4 Carp culture		45
E.5 Composite fish culture		47
E.6 Integrated fish farming		49
<b>F. Fish nutrition, health and reproduction</b>		
	<i>- Dr. Debasis Sasmal</i>	51
F.1 Fish Nutrition		51
F.2 Fish Health		53
<b>G. Harvesting - Dr. Debasis Sasmal</b>		67
<b>H. Rice-Fish-Livestock-Vegetable- Horticulture (black pepper, poly house, Ginger, Maize, Rice)- Integrated farming system-Dr. D. Sasmal, Dr. Debasish Borah (SMS, Agronomy), Mr. Ph. Chandramani Singh (SMS, Horticulture) and Mrs. Madhumita Sonowal Bora (SMS, Plant Protection)</b>		69
<b>I. Magur cultivation- Dr. D. Sasmal</b>		89
<b>J. Scientific cultivation of Banana</b>		
	<i>- Mr. Ph. Chandramani Singh, Dr. Debasish Borah and Mrs. Madhumita Sonowal Bora</i>	91
<b>K. Scientific cultivation of Pineapple (Ananas comosus)</b>		
	<i>- Mr. Ph. Chandramani Singh and Mrs. Madhumita Sonowal Bora</i>	96
<b>L. Pig farming</b>		
	<i>- Dr. B.K.D. Borah, SMS (Animal Science), Dr. U. A. Nandankar, Chief Tech. Officer, NRC on Yak and Dr. P.K.Mallick</i>	100
<b>M. Farming and diseases of duck</b>		
	<i>- Dr. J. Rajkhowa, Dr. U. A. Nandankar and Dr. B.K.D.Borah</i>	106
<b>N. Apiculture- Mrs. Madhumita Sonowal Bora</b>		110
<b>O. Vermicompost production technology</b>		
	<i>- Dr. Debasish Borah</i>	119